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Editorial

Dear Readers,

The Pakistan Institute for Parliamentary Services (PIPS) continues to offer legislative, research and parliamentary development, by provision of technical assistance anticipatedly and on demand to Members of Parliament and committees. Hon. Syed Yousaf Raza Gillani, President PIPS Board of Governors/ Chairman Senate of Pakistan inaugurated the three-day Workshop of Council of Committee Chairs for Provincial Assembly of Punjab held by the Institute in close collaboration of EU MuP Project from April 23-25, 2025. As per its tradition the Institute held 10th Annual Constitution Day celebration on 10th April, 2025 with enthusiastic participation of youth and absorbing plenary of experts reiterating on the imperative theme: prevention of violent extremism and promoting national cohesion.

The Parliament of Pakistan has unanimously condemned the Indian war hysteria in wake of Pahalgam incident in Illegally Indian Occupied Kashmir aimed at maligning the long-standing freedom struggle of Kashmiris, disrupting Pakistan's enhanced international acknowledgement as a resilient front-line state against terrorism and lastly, triggering a lame justification to walk out of the 1960 Indus Basin Treaty. Pakistan holds firm on its ideological principle of peace within and peace without, and it has made it clear that any violation of IWT will be considered as a direct attack where we reserve the right to respond as the nation stands in unison to back its brave armed forces in case of any cowardly act of misadventure by India.

This April 2025 Issue of the PIPS Parliamentary Research Digest includes absorbing write-ups on innovating peace and sustainability through science and technology, Pakistan's informal economy, the role of productivity in achieving SDGs and a review of the book titled "Charter of Economy". Please feel free to send your feedback and/or contact the Team for any of our services at research@pips.gov.pk

Muhammad Rashid Mafzool Zaka
Director General (Research)



Honorable Chairman Senate/President PIPS BoG, Syed Yousaf Raza Gilani, presides over the Inaugural Ceremony of the three-day Workshop for the Council of Chairpersons, Provincial Assembly of the Punjab, hosted by PIPS - April 23 - 25, 2025.

Senate of Pakistan

The Senate of Pakistan:

Condemns terrorism in all its forms and manifestations;

Emphasizes that killing of innocent civilians is contrary to the values upheld by Pakistan:

Rejects all frivolous and baseless attempts to link Pakistan with the Pahalgam Attack of 22nd April 2025 in Indian Illegally Occupied Jammu and Kashmir

Condemns the orchestrated and mala fide campaign by the Indian government to malign Pakistan, which follows a familiar pattern of exploiting the issue of terrorism for a narrow political goal;

Condemns India's unlawful and unilateral declaration to hold the Indus Waters Treaty in abeyance in blatant violation of the Treaty which clearly amounts to an act of war;

Warns that Pakistan remains fully capable and prepared to defend its sovereignty and territorial integrity against any aggression, including water terrorism or military provocation as clearly demonstrated by its robust and valiant response to India's reckless actions in February 2019; and any misadventure by India will be met with a firm, swift and decisive response

Emphasizes that the people of Pakistan remain committed to peace, but will never allow anyone to transgress the country's sovereignty, security, and interests;

Demands that India should be held accountable for its involvement in different acts of terrorism and targeted assassinations on the soil of other countries, including Pakistan; and

Reaffirms Pakistan's unwavering moral, political and diplomatic support for and commitment to the Kashmiri people's just struggle for realization of their inalienable right to self-determination.

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ANALYSIS

Innovating for Peace and Sustainability: The Power of Science and Technology

Tehseen Khalid

Director (Research), PIPS

1. Introduction:

Science, technology, and innovation (STI) are recognized as critical drivers of economic growth, societal development, and progress for humanity. A significant distinction between this era and previous periods of conflict is the potential use of technology for peace and sustainable future. We are living in unique times where technologies like artificial intelligence (AI), space-based technologies, quantum computing, and digital e-governance are reshaping our surroundings and changing state-to-state relations in the international arena, warfare, and our life in general. STI has become increasingly complex in today's modern world. Apart from traditional armaments and weapons, it is evident that emerging technologies such as data, space, and other information and communication systems are going to be crucial in 21st century warfare, particularly when combined with technology. Science, technology and Innovation are rapidly becoming a powerful tool for transformation of nations from developing to the developed societies.

Recent global developments have reaffirmed the significance of science and technology for its far-reaching positive dividends. The speed of change is much faster compared to the previous times. Scientific and technological advancements have a multitude of benefits. These include facilitating use of resources efficiently and intensive utilization, promoting exports, providing alternatives to imports, building infrastructure, improving the productivity of human resources, promoting industrialization, increasing capital formation, making foreign capital available, advancing agricultural development, and, ultimately, bringing about positive changes in the social and economic structure. Since science and technology have been at the forefront of economic growth and development, developing nations have benefited greatly from the numerous scientific and technological advancements that have taken place. The countries are now realizing the importance of STI and formulating policies to exploit it for economy and most importantly for sustainable economic growth and development.

2. STI for a shared Prosperity:

There is a growing understanding that, despite science's promise to contribute to equitable and sustainable social, economic, and environmental futures, there is a disconnect between scientific claims and their realization. Despite rapid pace of STI, masses in many developing countries have little or no access to these crucial life-changing technological advancements. Our world is facing a number of issues which range from poverty, climate change, conflicts, food crisis, and economic disparities. Limited access to science, technology, and innovation can not only exacerbate national and international disparities but also effect patterns of discrimination and inequality. Destruction caused by conflicts pose threat to global peace and sustainable future. The transformation of countries from developing to developed nations is only achievable if all nations work together to maximize the potential of digital and emerging technologies.

One of our times' crucial questions for parliamentarians across the globe is how to maximize the potential of digital and future technologies while reducing the risks through increased international cooperation. We can identify better approaches and solutions by leveraging STI, to help eliminate inequities that afflict vulnerable groups.

The right to science is enshrined in article 27 of the Universal Declaration of Human Rights which states that "everyone has the right freely to...share in scientific advancement and its benefits". The International Covenant on Economic, Social, and Cultural Rights also enshrines the right to science. We must instill trust in science, foster interdisciplinary and international cooperation, and ensure that all marginalized

groups benefit from and can participate in the advancement and application of science, technology, and innovation. The International Decade of Sciences for Sustainable Development (2024–2033) also offers a unique opportunity to harness science for the common good, address the intricate and multifaceted issues facing the modern world, and realize the full potential of science in the pursuit of sustainable development and ensuring a safe and prosperous future for all.

3. Challenges for Science, Technology and Innovation:

- i. **Meeting basic needs:** One of the key responsibilities of national governments continues to be providing for the basic needs of the populace. The 2030 Agenda for Sustainable Development recognizes that measures to enhance health and education, reduce inequality, and promote economic growth must operate alongside efforts to eradicate poverty and other forms of deprivation. The efforts for technology development and innovation may be utilized for data compilation and monitoring of human indicators by STI-led spatial maps for prompt supply of food, shelter and universal immunization drives.
- ii. **Achieving economic growth:** There has always been a connection between development and technology. Examining human civilization's history in detail reveals that the emergence of technology was intimately linked to every significant advancement in human civilization. STI can have a variety of effects on the economy, including the expansion and diversification of the industrial sector; increased labor productivity through the use of machinery; decreased production costs and increased profit margins due to higher productivity levels achieved through the application of improved technology; and improved product quality through the use of the latest technologies. Consequently, because of technical advancement, innovation and technology have continued to play a major role in the developed world's rapid economic expansion. It is estimated that technology change accounts for roughly two-thirds of US economic growth, while labor and capital account for one-third. In future, STI will become more important for national competitiveness and economic growth.¹ Therefore it is very important that Parliamentarians and other key stakeholders contribute to support global R&D initiatives that can help enhance the capacity of all nations to engage in such efforts.
- iii. **Improving quality of life:** The term 'quality life' is quite meaningful which encompasses overall well-being of citizens. It not only includes standard of living but also physical & mental health, education facilities, safety, security, opportunities for employment, transportation as well as freedom and human rights. Thus, STI can play a fundamental role in improving quality of life of citizens through multiple dimensions of overall well-being of the citizens. It can not only address challenges like food scarcity, climate change, social inequality, resource scarcity but also foster peace through advancements in communication systems and conflict resolution. Safe city projects are exemplary clinical cases of STI. However it is essential that these advancements are utilized responsibly so that they can benefit all segments of any society.
- iv. **Strengthening Governance:** The essence of good governance is efficient public service delivery, securing justice to all, empowering individuals including women, and ensuring a country's sustainable development. This means that a country's policies should not only address the requirements of the current generation, but also the needs of future generations. Science, technology, and innovation strongly influence the delivery of effective governance. For example, digital technology has transformed the concept of service delivery; for example, ease in financial transactions by technology enhancement in banking sector led to paper-less

¹ Ministry of Science and Technology, Government of Pakistan, *National Science, Technology and Innovation Policy*, 2022, (Islamabad: Government of Pakistan, 2022)

transactions. Developing new techniques and strategies to rationalize good governance is necessary for uninterrupted and effective delivery of services to the public.

The concept of good governance has evolved over time, impacted by various forms of government and most notably by population expansion. In today's modern world, good governance is largely dependent on multiple advances in effective service delivery, technological advancements, and research advances in scientific fields. Thus STI can be harnessed to achieve good governance in any country for a more peaceful and sustainable future.

- v. **Achieving SDGs:** A recent report "Changing directions: Steering science, technology and innovation for the Sustainable Development Goals"² published in 2022 reveals that research and innovation worldwide are not focusing on meeting the UN's Sustainable Development Goals. High-income and middle-income countries contribute disproportionately to this disconnect, with most published research and innovation activity not related to the SDGs but to fulfill private interest. The report also reveals that "research in high-income countries contributes disproportionately to a disconnect with the SDGs. Most published research (60%-80%) and innovation activity (95%-98%) is not related to the SDGs." Moreover, to illustrate the discrepancy, the study discovered that 80% of SDG-related technologies in high-income nations were concentrated in just six of the 73 countries, with the United States alone creating 47% of such inventions. Members of Parliament can lead countries to realign and steer STI related research activities in the direction of the SDGs in order for countries to meet their global and economic challenges.
- vi. **Peace and STI:** In today's world the armed conflict is once again challenging the very foundations of both regional and international peace and security. Hence, the focus of the world on peace is not just a coincidence. Peace is one of the five pillars of SDGs. The 2030 Agenda reinforces the close relationship between peace, security and development. Digital technologies are taking prominence in the arena of conflict where these are not only shaping conflicts and influencing behaviors but also actions to conflicts. STI have given rise to new risks such as misinformation and disinformation are now becoming growing challenges for peace. These are linked to recent developments in subfields of AI - generative AI, which allows various types of text, image, video and audio including many other types of content, which may pose unseen risks to privacy and also lead to false propaganda against state institutions thus undermining regional and international peace. However, STI also presents new opportunities to improve the effectiveness of peacekeeping processes by ensuring the responsible use of technology and implementing measures like strengthening cyberspace governance and digital democracy. This approach necessitates a deep understanding of the various means of communication including social media to tailor counter-disinformation strategies and subsequent essential legislation.

4. **Harnessing Science and Innovation for Sustainable Development in Pakistan**

The Government of Pakistan established the National Commission for Science and Technology (NCST) in 1984. The Commission is led by Pakistan's Prime Minister and serves as the country's apex decision-making body for scientific and technical development. The Executive Committee of the National Commission for Science and Technology (ECNCST), chaired by the Federal Minister for Science and Technology and co-chaired by the Deputy Chairman of the Planning Commission, oversees the implementation of NCST decisions. The Pakistan Council for Science and Technology (PCST) acts as secretariat of the Commission.

² Ciarli, Tommaso (editor), *Changing Directions: Steering science, technology and innovation towards the Sustainable Development Goals*, STRINGS, SPRU, (University of Sussex, 2022).

NCST consists of 26 members. It also has two prominent scientists as members. The goal of the Commission's twice-yearly meetings is to accelerate the development of scientific and technology capability in order to promote swift and sustainable economic growth. In Pakistan, STI is a federal subject under the fourth schedule of the Constitution of Pakistan. The parliamentary oversight of STI policy and decision making is provided by the relevant standing committee in the Senate and National Assembly of Pakistan. The committees deal with bills and other major science and technology issues at the national level that are referred to it by the Parliament.

Pakistan's first National STI policy was adopted in 1984, and it laid the foundation for promoting science and technology research in the country by emphasizing technical development corresponding to the needs of the nation. One of the most significant outcomes of this policy endeavor was the establishment of the STI governance structure, which was crucial in developing the institutional framework to drive S&T development in the country. Pakistan unveiled the second National STI policy later in 2012. Unfortunately this policy could not produce desired outcome due to weak implementation framework.³ The third National STI policy was developed in 2022. The policy aims to address four critical areas of sustainable development:

- i. basic human needs
- ii. good governance
- iii. economic development
- iv. quality of life

The policy consists of sixty-one (61) policy declarations that provide a clear course of action to bring about paradigm shift from academic impact of R&D's to society and its societal impact. The essence of the current STI policy 2022 is to leverage science, technology, and innovation to drive socioeconomic progress and improve the quality of life for the general public.⁴

5. Role of Parliament in harnessing STI for peaceful and sustainable future:

Within this crucial arena of STI, parliaments can play an instrumental role. As the legislative backbone of nations, parliaments have the authority to enact laws, allocate resources, oversee and set policy directions. Parliamentarians, by virtue of being representatives of people, act as the bridge between international commitments and national action. They are uniquely positioned to advocate and monitor governments to implement policies and in creating a supportive environment for STI ensuring that governments not only pledge support for global sustainability agendas but also follow through with concrete, impactful actions.

- i. **Support policy and regulation:** Parliamentarians have a critical role in developing legislation and regulations governing the ethical use of science, technology, and innovation. They establish legal and regulatory frameworks that ensure STI efforts align with national and global sustainability goals. Moreover, they can advocate for laws that expand digital accessibility, skills trainings, support youth-led start-ups and innovation through financial incentives and support frameworks. Establishing frameworks for advanced technology and addressing ethical concerns like privacy, disinformation and AI biases are also essential components of effective legislation. They can additionally leverage incentives, such as tax breaks or grants, to persuade youth and businesses to

³ 4th Joint training program Science, Technology and Innovation (STI) policy and tools for sustainable development in the Belt and Road Countries, December 15th, 2021, available at: <https://ecosf.org/uploads/files/Report%204th%20Training.pdf>

⁴ Ministry of Science and Technology, Government of Pakistan, *National Science, Technology and Innovation Policy*, 2022, (Islamabad: Government of Pakistan, 2022)

embrace sustainable practices and green technologies. Such measures not only promote ethical and environment friendly technology solutions, but they also encourage responsible use of science and technology for human development.

- ii. **Parliament, Youth & STI for a Sustainable Tomorrow:** There are currently 1.8 billion young people in the world and about 90% of them reside in developing countries, where they make up a sizable fraction of the population.⁵ Youth comprises of around 64% population of Pakistan. Young people are not only beneficiaries but critical stakeholders and catalysts in achieving sustainable future. They possess the energy needed for transformative solutions and if provided the opportunities, youth provide the platform of STI consolidation for peaceful and sustainable growth. The Parliament of Pakistan has set up a Young Parliamentarians Forum (YPF) that comprises of over 100 MPs. The Young Parliamentarians by focusing on youth priorities and leveraging their talents can play pivotal role in cultivating the next generation of sustainability leaders who can subsequently bring meaningful change in the society. This forum can exchange knowledge and deliberate on creating an enabling environment relating to STI for youth for addressing the pressing challenges of the world.
- iii. **Transform Youth STI Skills for sustainable future:** Investment in the "skills of the future," such as STEM (science, technology, engineering, and math) education, should be prioritized by governments and international communities. Early exposure to new technologies, as well as the absence of age and gender discrimination may help to build a strong scientific and technological environment especially in the least developed countries.⁶ The Government of Pakistan is committed to transform STI skills of youth for a sustainable future. In Pakistan, the STEM Program has been expanded to 4000 schools, with 3.5 million children enrolled.⁷ The government has recently announced to introduce IT as a subject from 6th grade, which is a step in the right direction for transforming the skills of youth.⁸
- iv. **Leverage digital transformation:** Digital technologies and tools offer an opportunity to accelerate the transition to a sustainable and peaceful future. Young Parliamentarians Forum can advocate for the use of digital tools in education sector, which can not only broaden learning opportunities for youth but also enhance their access to global resources. MPs can also address gender disparities in digital access to ensure that digital transformation benefits everyone, particularly women and marginalized segments of the society. Wider integration of STI in parliamentary processes can also make legislative processes more inclusive and effective. Young MPs should advocate large scale development of IT integration where students and youth implement their startups to contribute in generating employment and businesses by export of software and tech-based solutions in international markets.
- v. **Create enabling and inclusive environment for youth-led tech based innovations:** Parliamentarians may promote tech-based innovation and drive sustainable development by creating supporting legal frameworks and scaling up budgets for youth-led enterprises. Encouraging young-led startups, particularly those centered on innovation and climate adaption have the potential to accelerate sustainable development and generate employment. Due to their greater

⁵ "Youth and SDGs," <https://www.un.org/sustainabledevelopment/youth/>

⁶ <https://www.un.org/technologybank/news/world-youth-skills-day-2022-transforming-youth-skills-science-technology-and-innovation-future>

⁷ "Ministry Unveils Tech-Driven Curriculum," *The Express Tribune*, May 01, 2024, <https://tribune.com.pk/story/2464660/ministry-unveils-tech-driven-curriculum>

⁸ "PM Directs to Make IT Compulsory Subject from Grade 6," *Radio Pakistan*, April 16, 2025, <https://www.radio.gov.pk/16-04-2025/pm-directs-to-make-it-compulsory-subject-from-grade>

initial expenditures, green ventures frequently need various types of funding. Parliaments are capable of rendering microfinance platforms more accessible to such youth-led innovations. Such efforts will encourage young people to set up businesses, particularly those aligned with the SDGs.

- vi. **Empower Youth in Politics:** A crucial area in which young MPs may have an impact is the empowerment of youth in politics. Unfortunately, 25% of the world's single and lower chambers of parliament have no members who are 30 years old or younger.⁹ The IPU's "I say Yes to Youth in Parliament," campaign seeks to address the underrepresentation of youth in politics. The campaign contends that until a sizable portion of the population that is directly impacted by these concerns is included in the decision-making processes, the challenges facing the globe today cannot be effectively addressed. Therefore, young parliamentarians should strive for greater representation of young people in political institutions and decision-making processes. Youth, leveraging their familiarity with developing technologies can drive innovative solutions in governance, if given a chance to do so and their participation and representation in politics may rise with support for initiatives like the IPU Campaign "I Say Yes to Youth in Parliament!"
- vii. **Promote ethical standards and accountability:** The ethical implications of scientific and technical advances are becoming more complex and consequential, necessitating greater efforts for aligning policy with data and facts. Parliamentarians are well positioned to address the ethical and social implications of technological advancements. They can play crucial role in facilitating discussions regarding privacy and security, as well as ensuring ethical standards for STI. The development of ethical guidelines for innovative technology is crucial for ensuring that advancements in science, technology and innovation benefit society while preventing its misuse. Parliaments can advocate for laws that address ethical concerns about modern technologies such as artificial intelligence, biotechnology, and cybersecurity within their countries. This endeavor will not only ensure that technological advancements contribute positively to societal well-being but also improve public's trust on the parliament.
- viii. **Foster global cooperation through science diplomacy:** Besides performing their core duties of law making, oversight of the executive, budget making and representation on behalf of the people, lawmakers can also foster global cooperation for addressing most pressing issues facing the world such as resource scarcity, cyber security, arms control, climate change, and pandemics. They can utilize international forums such as IPU, CPA, ECO etc., to tackle trans-boundary issues. They can advocate for global partnerships or facilitate countries' joint efforts to promote open access to scientific research and technical developments, ensuring that the benefits of STI are widely shared with everyone, including youth. Science diplomacy can lay the foundations of bi or multi-national science projects aimed at finding solutions to complex global challenges such as poverty, food insecurity, energy, climate change and arms proliferation among many others.
- ix. **Provide space for multi-stakeholder dialogue on R&D:** Parliaments can also advocate establishing new forums for bringing together social scientists, engineers, youth, and other societal actors such as development specialists, managers of natural resources, and leaders in business, government, and civil society for promoting interactions on new scientific and technological developments. The dialogues should also focus on developing a prioritized "Agenda on R&D for Sustainable Development" based on the discussion of what new knowledge and technological skills are most important for a more sustainable future. This must be a truly global effort, undertaken at

⁹ SIDA, "Youth Participation in National Parliaments: 2023," [iknowpolitics.org](https://iknowpolitics.org/sites/default/files/20231016_ipu_youthreport_en_lr.pdf), 2023, https://iknowpolitics.org/sites/default/files/20231016_ipu_youthreport_en_lr.pdf.

different scales and involving multiple sectors of society.¹⁰ Inadequate funding can, however, seriously hinder the international collaboration. Therefore, it is imperative that such parliamentary Institutions including IPU and CPA must develop a global toolkit for MPs identifying areas of STI integration and practical ways of engaging youth on a national canvas to drive their initiatives for peace and development.

- x. **Promote peaceful use of technology:** Parliamentarians must promote the use of technology in peacebuilding by supporting communication technologies that promote communication and reconciliation and pushing for the use of data analytics to make forecast accurate and avoid conflicts.
- xi. **Align innovation with sustainable development:** While scaling up youth-led innovations, parliamentarians must also ensure that such tech and innovation based startups are strategically aligned to SDGs particularly those related to critical global concerns such as food insecurity, climate change, clean energy, and resource management. The emerging technologies are now being applied in various fields such as environment, agriculture, education, health, manufacturing, energy etc. Parliaments must pledge governments to promote emerging and frontier technologies and align them with the national development agendas. Furthermore, cross party forums of MPs like YPF can encourage international collaboration and knowledge exchange to ensure that technological advantages are widely shared and promoted to reduce inequalities between countries.
- xii. **Promote public private partnerships:** Parliamentarians may encourage public private partnerships that link youth-led innovations with major businesses, industries, and technology leaders. This will allow both sides to better foster co-innovation and scale solutions more effectively. These cross-sectoral collaborations provide young innovators with access to resources from a variety of sectors while promoting holistic and multidisciplinary approaches to science, technology, and innovation. Such relationships not only help nurture youth-driven ideas, but also ensure that these advancements are informed by a broader spectrum of skills and viewpoints, resulting in more meaningful and integrated STI solutions.

6. Conclusion:

Leveraging digital transformation can provide revolutionary solutions while also ensuring that rapid technical developments contribute to equitable and sustainable development for all. The need for improved science-policy interfaces and more international collaboration with a particular focus on integrating green concepts into STI has been highlighted amid COVID-19 pandemic science-policy interfaces. Parliaments can harness STI by creating supporting legal frameworks and scaling up budgets. They can advocate for open access to scientific research and technical developments and foster global cooperation ensuring that the benefits of STI are widely shared and distributed. However, adoption of ethical guidelines is critical for ensuring that advancements in STI contribute positively in the sustainable development. While scaling up youth-led innovations, parliamentarians can ensure that such tech and innovation based startups are strategically aligned to SDGs.

¹⁰ International Council for Science, *Harnessing Science, Technology, and Innovation for Sustainable Development*. A report from the ICSU-ISTS-TWAS Consortium ad hoc Advisory Group (¹⁰ International Council for Science, 2005).

ANALYSIS

Pakistan's Informal Economy: Challenges and Opportunities

Dr. Amanat Ali

Associate Professor, School of Economics
Quaid-i-Azam University, Islamabad

1. Background of study:

The informal economy in Pakistan plays a vital role in the country's socio-economic framework, encompassing unregistered enterprises, informal labor markets, and activities that operate outside regulatory frameworks. Experts project this sector will provide 35% to 40% of the national economic growth, with forecasted annual earnings approaching \$457 billion during 2023. The success of this sector exists because unemployment levels are high while formal credit remains limited, and government bureaucracy creates challenges with business registration. Many Pakistanis maintain their survival from informal work in both urban and semi-urban areas because regular employment remains challenging to find in these locations. The sector's dominant position emphasizes why we need advanced solutions for handling its complex nature.¹

During economic decline, the informal economy serves as a contingency safety measure through alternate income sources that become available when standard employment collapses. Job positions that formal economic sectors abandoned throughout COVID-19 found refuge in informal marketplaces. Research shows that in recent years, informal employment involved 72% of Pakistan's workforce because the industry was an essential economic pillar. The informal sector provides essential economic output yet struggles against multiple intricate challenges. Tax evasion represents a substantial nationwide problem that diverts substantial government tax revenue. The government concludes that its tax losses from untaxed informal operations exceed Rs. 1 trillion per year, lowering the available funds for essential public services and healthcare and education programs. The Saudi Arabian government suffers resource management failures because its insufficient tax collection system produces existing problems.²

Women's full participation continues to serve as the primary driver for enhancing the strength of the informal economy. Rural women work in both agricultural fields and residential industries yet exist under unacceptable labor conditions devoid of regulatory safeguards or bank funds. Targeted microfinance programs combined with vocational training and legal support enable women to reach their complete potential, therefore fueling economic development. When women receive financial resources and skill development, they can transform their small-scale businesses into long-lasting, sustainable enterprises that improve household income while decreasing poverty levels.

2. Challenges:

Informal employment workers face various barriers that block their ability to create secure income streams and improve their economic standing. Workers face three principal challenges: Long extended work hours and low pay with nonexistent health coverage and job security protection in their industry. Women who work in rural settings experience the most unprotected situations at work because they earn insufficient wages through physically demanding roles which provide minimal potential for career advancement. The absence of critical financial alongside legal rights for women doing informal household work and agriculture perpetuates both poverty conditions and social inequalities. Unavailable funding for capital, innovative modern technology, and skilled personnel reduces informal businesses' production capacity. Research shows that informal businesses fall behind formal businesses in productivity because inadequate innovation spending is combined with minimized infrastructure development. Current technical and

¹ Ishrat Husain, Aijaz A. Qureshi, and Nadeem Hussain, *The Economy of Modern Sindh: Opportunities Lost and Lessons for the Future* (Karachi: Oxford University Press, 2019).

² Adejumo A. Afolayan, "Issues and Challenges of Emigration Dynamics in Developing Countries," *International Migration* 39, no. 4 (2001): 5-38.

administrative challenges prevent mono-enterprises from expanding and limit the economic potential within informal sectors.³

3. Factors influence informal economy:

Corruption is a major factor in the ongoing challenges that the informal economy in Pakistan is dealing with. When there is no accountability or transparency in an institution, unethical practices are able to flourish, which makes enterprises less likely to register formally. When there is a lot of corruption, it becomes more expensive to follow the rules, which causes more people and businesses to operate informally in order to avoid excessive red tape and bribes. Research shows that corruption not only undermines faith in institutions but also reduces the overall effectiveness of governance systems. This creates an environment that is conducive to the growth of the informal sector. The normalization of corruption creates an endless cycle where informal companies operate without negative consequences which impedes economic formalization initiatives.

Public authorities must carry out various policies aimed at stopping systemic corruption as well as create better institutional structures that monitor contemporary challenges. When anti-corruption agencies unify independently with broad educational programs they create successful corruption reduction efforts. International bodies have recognized Georgia for making rigorous anti-corruption reforms that boosted governance and raised institutional capacity. Technology-based programs designed for corruption prevention and monitoring when implemented in Pakistan have the potential to achieve effects similar to those observed in Georgia. State institutions build citizens' trust through the integration of new system processes which lead to economic formalization.

Duality in the economic system expands social disparities between people receiving formal sector benefits and those who work in informal economic activities. Social inequalities caused by the economic structure both ensure that poverty recurs and restrict development pathways in economically disadvantaged areas. Without proper regulation, informal economic activities remain difficult for both state agencies to monitor and enforce through legal standards. Eighty-two percent of urban Pakistan depend on informal employment for their jobs because this sector maintains its place as a basic component of the country's workforce. Statistical evidence on informal business activities remains difficult to acquire these difficulties create substantial barriers to focused policy measures and result in wide-reaching gaps within economic policy frameworks.⁴

4. Discovered opportunities:

When adequately investigated, the informal economy contains multiple undiscovered opportunities capable of significantly advancing Pakistan's developmental targets. This part of the economy is a perfect breeding ground for new business activities, mainly for people who cannot manage official work. Through special support programs that provide microfinance loans and business mentorship paired with official services, the government helps informal entrepreneurs transition their operations into formal entities. The recent implementation of microfinance projects in Pakistan produced remarkable outcomes that supported local business owners to build larger businesses and improve household revenue. Mobile banking and e-commerce platforms secure immediate adoption, enabling informal businesses to exploit digital economic opportunities. Customer uptake of mobile wallets proves that digital financial inclusion is expanding. Government officials should use this emerging trend to develop technical platforms enabling productivity growth and efficiency improvements within informal business practices. When implemented, these efforts have the potential to transform informal business operations into central drivers of economic stability along with innovative capabilities.⁵

Developing countries experience widespread informal economic activities throughout their regions. The informal economic sector in Pakistan represents more than one-third of the GDP total in Pakistan. It

³ Pakistan Bureau of Statistics, *Labor Force Survey 2022-23* (Islamabad: Government of Pakistan, 2023).

⁴ State Bank of Pakistan, *Mobile Banking and Financial Inclusion Report 2022*, (Karachi: State Bank of Pakistan, 2022).

⁵ Medina, Leandro, and Friedrich Schneider, *Shadow economies around the world: what did we learn over the last 20 years?* (Linz: International Monetary Fund, 2018).

operates similarly to Indian economic conditions, where informal workers comprise approximately 90% of the employed workforce. Nigeria's informal economy uses a GDP percentage of about 65 to demonstrate that this phenomenon exists widely across developing regions. People's survival depends on the informal economy, yet its structural difficulties remain a transnational problem beyond Pakistan's borders. Brazil serves as an example that forward-thinking approaches toward formalization generate beneficial results. Business registration guidelines and financial incentives addressing taxation issues will drive successful implementation. Through its "Simples Nacional" program, Brazil successfully formalized millions of unregistered business operations. The program simplifies tax regulations for micro and small enterprises through its system. These models can serve as blueprints for Pakistan-specific modifications, creating a proper equilibrium between formal sector requirements and livelihood protections.⁶

5. Digitalization:

Digital technology plays a fundamental part in expanding Pakistan's informal economic activities. Through mobile banking alongside e-commerce platforms, individuals lacking access to the traditional banking system can now access financial services. Easypaisa and JazzCash linked millions of customers to perform financial operations through their user-friendly services. The services function as essential tools for firms outside the formal financial system. The formal transition of informal businesses will become possible through government-driven initiatives which combine formal business models with digital platforms. Public funding supporting digital payment adoption and technology education programs will drive both efficiency and productivity growth among informal businesses.

6. Future research perspective:

Researchers need to understand how technology makes connections between formal work environments and informal spaces possible. Digital platform technology creates robust relationships which enable informal workers to build more considerable commercial connections while gaining entry to financial networks. Mobile banking infrastructure gives informal business owners access to financing options to handle transactions beyond traditional banking systems. Kenyans gained access to funds through the M-Pesa mobile money service, encouraging different international entities to create comparable financial systems. Mobile digital financial service growth in Pakistan shows promise for formal financial program expansion within the informal business sector. Policymakers must provide digital learning initiatives and electronic tool subsidy programs to improve formal economic sector access for informal businesses.

7. Pakistan perspective:

The informal economy in Pakistan has deep historical origins because the poor performance of the formal sector led to its creation over multiple decades. The rapid growth of urban areas and population numbers in the 1980s and 1990s surpassed formal industries' ability to create sufficient workplace positions. A vast working population needed increased informal activities within the construction, agricultural and retail sectors to absorb the surplus labor force. Since 1980, the agriculture sector of Pakistan led an informal economy that employs 39% of the country's workforce. Small-scale traders and unregistered vendors operate retail markets throughout the country, collectively comprising a major part of the informal economy. Declared-free sectors function without government oversight while supporting the distribution of crucial products to residents located in underserved communities.⁷

8. Environmental perspective:

Environmental aspects heavily impact on how informal economic analysis is conducted. Small-scale manufacturing alongside brick kilns works outside controlled parameters leading to environmental degradation while depleting resources. Environmental rules along with incentives from the government can drive green technology adoption to solve water scarcity pollution and resource shortages. Sustainable

⁶ William Jack and Tavneet Suri, *Mobile Money: The Economics of M-PESA*, no. w16721 (Cambridge, MA: National Bureau of Economic Research, 2011).

⁷ Rana Imran, "Microfinance and Informal Enterprises in Pakistan," *Development Finance Journal*, vol. 7, Issue no. 4, (2022).

formalization approaches build both environmental protection systems and durable growth prospects for informal economic activities.

Knowledge about how informal economy activities damage environments remains crucial. Official environmental regulations do not exist within informal industrial sectors that combine manufacturing and construction work. Development trends lead to uncontrolled pollution patterns and unsound resource management which stand as the principal environmental outcomes. Unregulated brick kiln operations across Pakistan produce elevated air pollution because they continue using outmoded technologies that generate large carbon emissions. Environmental sustainability measures must have formal standing within guidelines of business formalization to effectively navigate these environmental challenges. The implementation of green technology incentives through government policies supported by environmental standards enforcement will decrease environmental damage from informal businesses and create sustainable growth possibilities.⁸

In South Africa along with Indonesia, both governments utilize successful approaches to manage informal economy operations. Through "Kartu Prakerja" the Indonesian government provides financial support along with technical training to enhance informal workers' earning capacity. South Africa's government supports small businesses through dedicated trading spaces combined with legal compliance rules that local trade officers must enforce. The evaluation of international directives will help Pakistani officials build assessment methods and web platforms that help guide informal businesses toward legal establishment. Achieving lasting results in public administration demands the creation of stable collaborative frameworks for public and private-sector organizations to work with non-memory organizations.

9. Channels/Mechanism:

The essential framework of social protection policies creates strategies to reduce workplace safety risks within Pakistan's informal economic structure. Labors access critical safety through health protection, jobless security and statutes that protect their working conditions. Vocational training programs and microfinance access initiatives would provide significant advantages to informal workers who are mainly women. The implementation of social policies for working women throughout India and Bangladesh shows robust results in both work empowerment and income increase for household members. Informal workers gain better bargaining power when they join cooperative groups and develop collective bargaining structures that operate throughout their communities. Alongside local organizations, media platforms should launch awareness programs which persuade informal businesses to adopt formal procedures for maximizing economic opportunities and sustainability.

10. Conclusion:

The challenges confronting the informal economy remain extensive, but its real potential could bring inclusive growth momentum to Pakistan. The government needs to solve fundamental systemic problems that sustain informality while implementing solutions to enable regulatory functionality, capital access, and protective social programs. A combination of utility-based approaches is necessary to defend worker rights and create economic accessibility and training programs as well as establish incentives for business transitions into formal operation. When technology investments partner with digital infrastructure development, it elevates informal industry productivity, which promotes greater participation in national economic growth. Official and financial aid programs need to support the female workers in the informal employment sphere which represents the numerous workers in this sector. Pakistan's informal economy needs cooperative efforts between state institutions financial entities and civil society partners for its transformation into a growth-enabling sector.

The formal integration of informal sectors requires the setting up of working mechanisms between public organizations and bank institutions and developmental initiatives. The formalization of the informal economy requires coordinated activities on the part of public institutions and the financial and development sectors. The framework defines Standard Operating Procedures to assess concrete income

⁸ Pakistan Bureau of Statistics, *Labor Market Indicators Report 2022-23* (Islamabad: Government of Pakistan, 2023).

stability targets for formal economy labour force. So, that is all possible if we also have funding support along with a tax incentive to formalize but at the same time the regulation has to be very simple. The first move towards creating valid policy solutions is to have a robust system that aids in monitoring informal markets. Strategies for reducing the government economic divide are principles that are entrenched in a lasting financial framework with wheels attached to economic activity and community engagement.

Proper strategic policy guidelines are a basic necessity for the informal sector to operate in Pakistan. Gainful reform strategies require the development of human capital through professional training and also bring about technological integration for the establishment of sustainable environmental practices. Informal labor collectives empower their members by providing them with job training and educational opportunities according to their requirements. Applications of artificial intelligence technology and data analytic tools will enable future enhancements in strategic policies to monitor informal sector activities on an activity basis. Progressive planning reforms in Pakistan seek to integrate operations of the informal economy into the long-term viable formal economic framework of the country. The government has to commit, along with all the partners in the private and public sectors, to support programs that aid in the distribution of economic growth.

The current economic model in Pakistan nourishes many households while thwarting balanced overall economic growth. Activities of the informal sector generate wealth, but they undermine environmental quality and increase financial inequality along with lowering tax revenue. Address the challenges of the informal economy by creating a new policy framework with progressive attributes that will include formalization efforts. Inexpensive implementation of communal competencies is through greater financing for more than one, involving environmental sustainability and vocational education programs, plus digital network infrastructure programs. Special support programs provide women and youth with startup business opportunities leading them to formal employment opportunities.

11. Policy implications:

Pakistan can thus be assisted to transformation from an informal economy into a national economic engine that provides productive and resilient growth for the whole country by developing partnerships between government agencies, financial institutions, and civil society organizations. In order to successfully transform this sector, there needs to be intervention that will directly address the governance problems, alongside the adoption of technological advances and strengthening various regional linkages. The upward movement of informal economies toward their formalization requires not only political guidance on suitable measures but also small-scale incremental changes. Pakistan's future will be inclusive and sustainable if it addresses these sectoral hurdles and untaps the hidden market potential.

BOOK REVIEW**Charter of the Economy: Agenda for Economic Reforms in Pakistan****Authored by**

Dr. Hafiz A. Pasha

Former Finance Minister of Pakistan / Dean, School of Liberal Arts and Social Sciences,
Beaconhouse National University, Lahore

Reviewed by

Muhammad Rizwan Manzoor

Assistant Director (Research)

1. Introduction

Charter of the Economy, Agenda for Economic Reforms in Pakistan by Dr. Hafiz A. Pasha is a landmark policy document published in 2021 and an intellectual tour de force that seeks to redefine the framework of economic reform in Pakistan. Structured as a blueprint for national economic transformation, the Charter offers a data-driven, socially inclusive, and institutionally grounded strategy to restore macroeconomic stability, drive sustainable growth, and promote equitable development.

What distinguishes this work is not merely the breadth of its reform agenda spanning macroeconomic management, investment strategy, governance, social protection, and population control but its methodological clarity and unwavering emphasis on building political consensus across party lines. At a time when Pakistan's economy reels under debt stress, high inflation, and weak institutional performance, Dr. Pasha provides a bold yet pragmatic framework for policy continuity and reform resilience.

Book Structure and Coverage

The Charter is divided into eleven thematic parts encompassing thirty-one chapters, each offering sector-specific diagnostics, international benchmarks, historical trends, and carefully crafted recommendations. The Charter opens with economic diagnostics and macroeconomic targets, before transitioning into comprehensive treatments of governance, fiscal federalism, investment mobilization, sectoral growth strategies, and equity-enhancing policies.

Noteworthy is the Charter's clear articulation of quantitative targets to be achieved by 2024–25:

- Raise GDP growth from 3.9% to 6%
- Lower unemployment from 13% to 6%
- Increase investment from 13.6% to 17.5% of GDP
- Reduce inflation from 8.9% to 6%
- Bring public debt down from 77.3% to 70% of GDP

These targets are not abstract aspirations—they are embedded within sectorally disaggregated strategies and modeled macroeconomic projections.

2. Analytical Depth and Key Contributions

i. Macroeconomic Recalibration and Fiscal Stability

Dr. Pasha offers a lucid critique of Pakistan's macroeconomic trajectory, highlighting chronic fiscal deficits, a narrow tax base, excessive debt reliance, and inconsistent public investment patterns. He emphasizes mobilizing domestic revenues through progressive taxation, curbing non-targeted subsidies, and transitioning towards a primary fiscal surplus by 2024-25. The proposed reforms envision a tax-to-GDP increase from 11.7% to 15% while enhancing development spending and protecting pro-poor expenditures.

ii. Governance and Institutional Reforms

Governance emerges as the linchpin of the entire Charter. Dr. Pasha dissects the poor performance of regulatory agencies, weak planning frameworks, limited accountability mechanisms, and opaque budgetary processes. Recommendations include revitalizing constitutional bodies (NEC, CCI), empowering parliamentary committees, establishing an autonomous Pakistan Bureau of Statistics, and reforming institutions like NAB through transparency and legislative oversight.

iii. Reimagining Federalism

The Charter rightly emphasizes completing the process of devolution. It critiques the partial implementation of the 18th Amendment and urges finalizing the 10th NFC Award. It calls for enhanced fiscal and administrative empowerment of local governments, especially through municipal development funds and tax authority decentralization.

iv. Reviving Private Investment and Industry

Identifying stagnating investment as a core bottleneck, the Charter proposes raising private investment to 12.5% of GDP through SOE restructuring, financial deepening, and regulatory streamlining. The book categorizes SOEs by performance and strategic value, recommending privatization for loss-making units while retaining entities like PIA and PSM under reformed mandates.

v. Human Capital and Employment Strategy

Chapters 26 to 28 underscore the role of education, health, and vocational training in transforming Pakistan's demographic challenge into a dividend. Dr. Pasha advocates increasing education spending to 2.5% and health to 1.5% of GDP, restructuring technical education, and aligning skill development with labor market demands. He also addresses the paradox of educated youth unemployment and calls for recalibrated enrollment policies.

vi. Social Protection and Poverty Alleviation

In a compelling analysis of inequality and vulnerability, the Charter documents the post-COVID poverty resurgence and calls for expanding the EHSAAS program, transitioning to conditional cash transfers, and extending pension and social security schemes to the self-employed and private sector. It also recommends targeted subsidies using poverty scorecards and expansion of vocational programs.

vii. Population Planning as a Core Economic Imperative

Perhaps most boldly, the Charter argues that no economic plan can succeed without serious population control. With projections of over 400 million people by 2050, Dr. Pasha calls for

tripling provincial spending on family planning, engaging religious leaders, and incentivizing smaller families through conditional transfers.

3. Critical Appraisal

Despite its strengths, the Charter would benefit from a deeper treatment of:

- **Climate Change and Green Growth:** Environmental sustainability is underexplored, despite its growing relevance for energy, agriculture, and urban policy.
- **Digital Economy:** While acknowledged briefly under ease of doing business, a focused chapter on digital transformation, fintech, and e-governance is warranted.
- **Gender Economics:** Although youth and education are addressed, gender-disaggregated policy analysis—especially for labor participation and financial inclusion—is missing.
- **Consensus Building Mechanism:** The book passionately argues for a political consensus but offers little on how to engineer such consensus in a hyper-polarized polity.

4. Academic and Policy Value

Dr. Pasha's Charter of the Economy bridges the gap between economic theory and policy practice. It is a crucial contribution for economists, legislators, civil servants, and development partners. It should be made mandatory reading in graduate programs on public finance, political economy, and development studies. As a diagnostic and prescriptive tool, it can form the intellectual foundation for Pakistan's next generation of economic compacts.

5. Conclusion

Charter of the Economy is more than a reform document—it is a call to national conscience. It is a reasoned, rigorous, and reformist response to Pakistan's long-standing economic dilemmas. Dr. Pasha's command of economic policy and institutional realities makes this work an essential guide for anyone seeking to understand or influence the trajectory of Pakistan's economic future.

ANALYSIS

The Role of Productivity in Sustained Growth to Achieve SDGs

Muhammad Ali Kemal

Chief, SDGs Section

Ministry of Planning, Development & Special Initiatives

PART-I¹

1. Introduction:

Pakistan has adopted all the 17 goals of SDGs through a unanimous resolution by the National Assembly of Pakistan in February 2016. SDG 8 directly emphasizes the role of sustained, inclusive and sustainable economic growth through full and productive employment. At the heart of these aspirations lies in productivity, the key component behind economic transformation, poverty alleviation, technological innovation, and improvements in standards of living.

Persistent increase in productivity helps in sustained increase in GDP growth without necessarily requiring proportional increases in labor or resource input. A vibrant, productive economy creates more and better jobs, improves living standards, and generates the financial resources which governments need to invest in health, education, infrastructure, and climate resilience. Without meaningful gains in productivity, economic growth stalls, inequality widens, and the ambitious SDGs remain elusive. Thus, it is among the most significant indicators that accelerates the progress of Sustainable Development Goals (SDGs).

In this paper, we examine how productivity influences SDG 8 targets and also extends its impact to other goals such as poverty reduction (SDG 1), quality education (SDG 4), industry and innovation (SDG 9), and environmental sustainability (SDG 12 and 13). Through real-world data, case studies, and theoretical insights, this study provides a comprehensive understanding of why boosting productivity is not just an economic concern, but a developmental imperative.

2. Understanding Productivity:

Productivity² is an indicator of the efficiency, defined as the ratio of output to inputs in production. Higher productivity implies more goods and services can be produced at a lower cost per unit. Thus reduction in prices and increase in consumer surplus, hence improvement in competitiveness in the world market and improvement in living standards.

Main determinants of economic productivity are innovation, education, market efficiency, infrastructure, and institutions.³ It can be measured at various levels such as firm, sectoral, or national. It is often expressed in terms of labor productivity (output per worker) or total factor productivity (accounting for both labor and capital inputs).

- **Labor Productivity:** Output (GDP) per hour worked or per worker.
- **Total Factor Productivity (TFP):** Growth that cannot be explained by labor and capital increases, often linked to technological progress or efficiency gains.

¹ This is part one of this article. The second part will be published in May 2025 Issue.

² Jaime Valles and Anabel Zárate, "Fiscal Federalism, European Stability Pact, and Municipal Investment Finance: A Microdata Analysis of Spanish Municipalities," *Publius: The Journal of Federalism* 37, no. 1 (2007): 68–102.

³ Young Eun Kim and Norman Loayza, *Productivity Growth: Patterns and Determinants across the World*, World Bank Policy Research Working Paper 8852 (2019).

Estimates of ILO (2022) states that global labor productivity grew by an average of **2.1% annually** between 2000 and 2019, but disparities between developed and developing regions remain significant.⁴ Pakistan's labour productivity growth has averaged **around 1.5% annually** over the past two decades, lagging behind regional peers like India (**4.5%**) and Bangladesh (**3.2%**).⁵

Adoption or adaption and investments in innovation, technology, and skills development enhance productivity. Technological advancement is not only about economic gain but also about solving complex societal challenges — such as issues in food security (SDG 2), good health and well-being (SDG 3), clean energy solutions (SDG 7), efficient water use (SDG 6), sustainable cities (SDG 11) etc.

Productivity gains for SDGs achievement is only possible when we have inclusive growth. Thus investment in human capital is inevitable. Equity based investment realises the untapped hidden potential that further ensures inclusiveness and sustainable development across communities. Access to good health (SDG 3), quality education (SDG 4), gender equality (SDG 5), clean water and sanitation (SDG 6), affordable energy for all (SDG 7), financial inclusion for all (SG 8 and 9) etc. directly contribute to expanding the productivity potential of entire populations.

Resource-efficient production, circular economy models, and green technologies reduce environmental degradation (SDG 12: Responsible Consumption and Production, SDG 13: Climate Action) augments internal scale economies to increase productivity. Thus, sustainable productivity supports economic resilience while protecting the planet.

Governments play a critical role by creating environments that enable productivity growth through investing in infrastructure, supporting research and development, (SDG 9), ensuring fair regulatory frameworks, and fostering stable institutions (SDG 16: Peace, Justice and Strong Institutions).

3. Productivity and SDG 8:

SDG 8 aims to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” It encapsulates several specific targets that are directly linked to productivity improvements:

United Nations SDG Report (2023) reported **2.6%** global GDP growth in 2022 whereas youth unemployment rate stood around **13.1%**, while productivity growth roaming around **2.1%** globally. Since COVID-19, Pakistan has faced two episodes of negative growth rate. Unemployment rates are higher and productivity is lower. Achieving SDG 8's targets hinges significantly on strategic improvements in productivity across sectors and economies.

Target 8.1: Sustained Per Capita Economic Growth:

Productivity is crucial to sustaining per capita economic growth. Economic growth without productivity gains often leads to inflationary pressures, resource depletion, and unsustainable public debt. According to the World Bank (2023), **70%** of global GDP growth between 2010 and 2020 was driven by productivity improvements, not just labor or capital accumulation. Similarly, East Asian economies such as South Korea and Singapore achieved **6%** average GDP growth between 1990 and 2010 largely through higher productivity growth than mere input increases⁶.

⁴ International Labour Organization (ILO), *Global Wage Report 2022–23: The impact of inflation and COVID-19 on wages and purchasing power*. (Geneva: International Labour Office, 2022), <https://webapps.ilo.org/digitalguides/en-GB/story/globalwagereport2022-23>.

⁵ World Bank, *Pakistan Development Update*, 2023, (April, 2023), <https://thedocs.worldbank.org/en/doc/5ee854aff2b120cb30ef910f4e7421f9-0310012023/original/Pakistan-Development-Update-Report-April-2023.pdf>

⁶ International Bank for Reconstruction and Development / The World Bank, *Annual Report 2019*, (Washington, DC: World Bank, 2019), <https://documents1.worldbank.org/curated/en/630671538158537244/pdf/The-World-Bank-Annual-Report-2018.pdf>.

Target 8.2: Achieve Higher Levels of Economic Productivity:

Target 8.2 calls for achieving higher productivity through diversification, technological upgrading, and innovation. Shifting from exporting raw materials to value addition can only be possible through technological upgradation. Pakistan's R&D is less than 0.2 percent, however, it is noted that countries investing more than 2% of GDP in R&D such as South Korea consistently rank among the highest in productivity indices.⁷ Following two Tables 1 and 2 show the labour productivity growth and TFP growth in South Asia, China, Korea, Africa and Global Averages. Pakistan's low productivity growth is due to technical inefficiencies and acute energy crisis. African lower productivity growth is due to infrastructural gaps and dominance of informal sector that leads to lower technological adoptions. However it is very clear that productivity growth is led by spending in innovation, technology, and advance manufacturing.

Table 1: Annual Labour Productivity Growth Comparison (%)

Country/Region	2015–2020 (Avg.)	2021	2022	2023 (Est.)
Pakistan	1.4%	1.6%	1.2%	1.3%
India	4.7%	5.1%	4.8%	5.0%
Bangladesh	3.5%	3.8%	3.6%	3.7%
South Asia	3.9%	4.2%	4.0%	4.1%
China	6.2%	5.8%	4.5%	4.2%
South Korea	2.3%	2.5%	2.1%	2.2%
Sub-Saharan Africa	1.1%	1.3%	1.0%	1.2%
Global Average	1.8%	2.0%	1.7%	1.9%

Sources: World Bank, ILO, Conference Board, 2023–2024 estimates

Table 2: Annual Total Factor Productivity (TFP) Growth Comparison (%)

Country/Region	2015–2020 (Avg.)	2021	2022	2023 (Est.)
Pakistan	0.3%	0.2%	0.1%	0.2%
India	1.8%	2.0%	1.7%	1.9%
Bangladesh	1.2%	1.3%	1.1%	1.2%
South Asia	1.4%	1.6%	1.3%	1.5%
China	2.5%	2.2%	1.8%	1.7%
South Korea	1.4%	1.6%	1.5%	1.6%
Sub-Saharan Africa	0.4%	0.5%	0.3%	0.4%
Global Average	0.9%	1.0%	0.8%	0.9%

Source: ADB (2023), IMF 2023, World Bank (2023) and Conference Board, 2023–2024 estimates

Target 8.3: Promote Development-Oriented Policies:

Development-oriented policies that foster entrepreneurship, creativity, innovation, and SME growth are powerful productivity drivers. Investment in startups fosters agility and innovation. Supporting SMEs can significantly raise national productivity averages. Pakistan is ranked 99th in innovation index with a score 5.1% than the south Asian averages.

South Korea is at number 6 in innovation index. Heavy investment by South Korea in R&D (4.9% of GDP) and SME digitalization leads to 1.6% annual TFP growth. KOSBI (2022) reports 99 percent SMEs contribution in overall business while employing 86 percent of the employment. Similarly Vocational

⁷World Intellectual Property Organization, Global Innovation Index 2022, 15th ed. (Geneva: WIPO, 2022), <https://www.wipo.int/documents/d/global-innovation-index/docs-en-wipo-pub-2000-2022-en-main-report-global-innovation-index-2022-15th-edition.pdf>.

trainings for SMEs along with KfW development loans to SMEs generate 54 percent of economic value added in Germany. Their TFP growth was 1.8 percent.⁸

Table 3: Innovation & SME Growth Comparison (2008–2023)

Country/Region	Global Innovation Index (GII) 2023 (Rank/Score)	Avg. Annual SME Growth (2008–2023)	SME Contribution to GDP (2023)
Pakistan	99th (23.4/100)	3.1%	30%
India	40th (38.6/100)	8.7%	45%
Bangladesh	102nd (21.8/100)	6.2%	25%
China	12th (55.6/100)	10.3%	60%
South Korea	6th (63.2/100)	4.5%	50%
South Asia	- (Avg: 28.5/100)	5.8%	35%
Sub-Saharan Africa	- (Avg: 19.1/100)	4.0%	20%
Global Avg.	- (Avg: 34.0/100)	5.2%	40%

Sources: WIPO, World Bank, OECD, GEM 2023 Reports

Target 8.5: Full and Productive Employment and Decent Work:

Decent work and **full employment** are both outcomes and enablers of productivity growth. Workers with higher education levels are 4–6 times more productive than unskilled workers.⁹ However, Pakistan is at lower level of skilled labour index (Table 4) with a tertiary education enrollment, STEM graduates, and Vocational trainings coverage at mere 9 percent, 12 percent and 15 percent respectively, which is South Asian Global average. Increasing female labor force participation in OECD countries has added an estimated **0.5% annually to GDP**.¹⁰ Nonetheless, India has experienced decline female labour force participation (LFP) due to mechanised agriculture (Table 5). Whereas, despite **22.6%** Female LFP rate in Pakistan, only **5%** of women hold formal sector jobs, thus have lower wages and are less productive. Exports led industrialisation in Bangladesh, child care subsidies in South Korea and digital Gig economies in China has led to increase in female LFP.

Table 4: Skilled Labour Index

Country/Region	Skilled Labour Index (2023)	Tertiary Education Enrollment (%)	STEM Graduates (% of total)	Vocational Training Coverage (%)
Pakistan	38.2 (Low)	9%	12%	15%
India	55.6 (Moderate)	28%	32%	25%
Bangladesh	42.1 (Low Moderate)	14%	18%	20%
China	72.4 (High)	54%	40%	65%
South Korea	84.9 (Very High)	70%	35%	80%
South Asia	48.3 (Moderate)	22%	25%	21%
Sub-Saharan Africa	35.8 (Low)	8%	15%	12%
Global Average	57.1 (Moderate)	38%	28%	42%

Sources: World Economic Forum (2023), UNESCO (2023) and ILO (2023)

⁸ OECD, "A Long unwinding road," *OECD Economic Outlook*, Volume 2023, Issue 1(2023)

⁹ International Labour Organization, Annual Report 2022 (Geneva: International Labour Organization, May 31, 2023), <https://www.ilo.org/publications/annual-report-2022>.

¹⁰ OECD, "General Assessment of the Macroeconomic Situation," *OECD Economic Outlook*, Volume 2022, no. 2 (2022)

Table 5: Female Labour Force Participation (%)

Country/Region	2000	2010	2020	2023	Change (2000-2023)
Pakistan	14.6%	22.1%	21.7%	22.6%	+8.0 pp
India	26.4%	29.4%	19.2%	24.0%	-2.4 pp
Bangladesh	33.5%	38.1%	42.3%	43.9%	+10.4 pp
China	72.9%	67.5%	61.1%	60.8%	-12.1 pp
South Korea	50.1%	54.3%	56.7%	58.1%	+8.0 pp
South Asia	28.3%	31.6%	29.4%	31.2%	+2.9 pp
Sub-Saharan Africa	61.2%	63.8%	65.4%	66.1%	+4.9 pp
Global Average	51.7%	52.3%	52.1%	52.9%	+1.2 pp

Sources: *World Bank (2023), ILO (2023), UNDP (2023)*

Target 8.6: Youth Employment:

Youth not engaged in education, employment, or training (NEET) represent a **lost opportunity** for productivity and growth. Alarming, as of 2023, nearly **25.7%** of young people in South Asia and **30.4%** in Pakistan are NEET.¹¹ Besides South Korea and China in the Table 6, all countries have higher NEET than global averages. Lower vocational trainings, skill mismatch, lack of demand by the SMEs are the main cause of NEET in South Asia, while higher NEET gender gap is noteworthy. Investment in vocational, technical and tertiary education along with availability of jobs as well as entrepreneurial ventures are the key to reduce NEET and increasing productivity or we it will be continued as lost opportunity.

Table 6: NEET (%)

Country/Region	NEET Rate	Gender Gap (F-M)
Pakistan	30.4%	+12.7%
India	23.5%	+9.3%
Bangladesh	28.1%	+14.2%
China	10.2%	+3.1%
South Korea	7.9%	+2.1%
South Asia (avg.)	25.7%	+11.2%
Sub-Saharan Africa	22.8%	+6.5%
Global Average	15.6%	+4.8%

Sources: *ILO (2023), UNESCO (2023), World Bank (2023)*

Target 8.9: Sustainable Tourism:

Productivity improvements in **tourism** are key to achieving sustainable growth in this sector. Productivity-focused tourism supports local job creation, cultural preservation and environmental conservation. IT can deliver 3.2x more revenue than conventional models while upskilling local workforces (*UNWTO, 2023*). It merges travel with skill development, technology transfer, and resource optimization to drive economic gains. Unlike traditional tourism, it prioritizes measurable outputs—upskilling workers, enhancing local industries, and maximizing revenue per visitor.¹²

Target 8.10: Financial Sector Development:

Financial inclusion is among the major determinants of productivity that boosts economic growth and accelerate the progress of SDGs. Access to finance boosts entrepreneurship, business expansion, and productivity. Financial access enables SME growth, business innovation, and economic diversification.

¹¹International Labor Organization Research Department, *World Employment and Social Outlook: (Geneva: ILO, 2023)*.

Globally, 1.4 billion adults remain unbanked (**Global Findex Database, 2022**). In Bangladesh, the growth of **microfinance institutions** like Grameen Bank has led to increased small business productivity and poverty reduction. Pakistan's adult account penetration is the lowest in South Asia and very similar situation is shown by the SME credit and digital payments.

Table 7: Financial Inclusion

Country/Region	Adult Account Penetration (%)	Gender Gap (F-M)	SME Credit/GDP (%)	Digital Payment Users (%)
Pakistan	21%	-18%	5.1%	12%
India	78%	-6%	15.3%	48%
Bangladesh	50%	-22%	9.8%	23%
China	89%	+2%	28.7%	83%
South Korea	97%	0%	31.4%	91%
South Asia	56%	-14%	12.1%	34%
Sub-Saharan Africa	48%	-12%	6.9%	39%
Global Avg.	69%	-4%	18.3%	57%

Sources: *Findex (2023), IMF Financial Access Survey (2024), UNDP (2023)*

4. Productivity's Impact beyond SDG 8:

Productivity growth is not only essential for achieving **SDG 8** (Decent Work and Economic Growth), but it has far-reaching consequences across the entire SDGs. Each SDG is interconnected, and productivity improvements may serve as a catalyst for accelerating progress across multiple goals.

Goal 1 – No Poverty:

Poverty reduction has direct links with job creation and increase in income. Higher productivity in agriculture, industry, and services leads to increased incomes, job creation, and stronger economic resilience. Productivity improvements enhance labor earnings and reduce vulnerability, creating more inclusive economic growth.

Despite persistent decline in the poverty in the last two decades, the last available estimates are from 2018-19 was 21.9 percent. Nevertheless, there is a big difference between urban (**11%**) and rural (**28.2%**), where agricultural productivity remains low. Rural poverty correlates strongly with low productivity; smallholder farmers often lack access to modern machinery, improved seeds, irrigation, and credit facilities. Additionally, the informal sector, employing over **72%** of the labor force (Pakistan Bureau of Statistics, 2023), suffers from low productivity, poor wages, and minimal social protection.

Goal 2 – Zero Hunger:

Productivity is central to food security. It is not possible without significant improvements in agricultural yields, food production, and distribution efficiency, especially in the presence of climate vulnerabilities. Higher productivity reduces food prices, increases farmer incomes, and enhances national food security.

FIES that measure food insecurity estimates show that 16 percent Pakistan's population is food insecure¹³ Malnutrition remains a severe challenge, with 36.7 percent children are stunted. Yield gaps persist across major crops, Punjab breadbasket, has an average wheat yield **40% lower** than achievable benchmarks under similar agro ecological conditions.¹⁴ Contributing factors include outdated farming techniques, insufficient access to inputs, poor water management, and limited mechanization. Post-harvest

¹³ FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets* (Rome: FAO. 2020).

losses further exacerbate food insecurity. Approximately **15–20%** of Pakistan's agricultural produce is lost during harvesting, storage, and transportation stages.¹⁵ Additionally, climate change has introduced unpredictability into crop cycles, while the 2022 floods devastated millions of hectares of farmland, worsening rural food insecurity.

Goal 3 – Good Health and Well Being:

Higher productive economy allocate greater resources to healthcare infrastructure, innovation, and service delivery. Moreover, healthier populations contribute to higher labor productivity, creating a virtuous cycle where good health and economic growth reinforce each other.

Public investment in health is below than the WHO estimates of 4 percent to 6 percent.¹⁶ The country experiences high rates of preventable diseases; maternal mortality stands at **186 deaths per 100,000 live births**, and child mortality at **67 deaths per 1,000 live births**. Additionally, non-communicable diseases (NCDs) such as diabetes and cardiovascular illnesses are rising sharply, now accounting for more than **58%** of deaths nationwide.¹⁷ Poor health outcomes are intensified by inefficiencies in service delivery. Health workforce shortages, particularly in rural areas, overburdened public hospitals, and fragmented healthcare governance reduce the overall productivity of the health system. Furthermore, productivity losses from poor health are significant: a study by the Asian Development Bank (2022) estimates that Pakistan loses **2–3% of GDP annually** due to undernutrition, illness-related absenteeism, and early mortality.

Goal 4 – Quality Education:

Productivity improvements in the education sector are critical. Better teaching methods, efficient management, and use of technology increase learning outcomes. Moreover, higher economic productivity creates fiscal space for greater investments in education, while a better-educated workforce enhances productivity, innovation, and economic competitiveness.

With a mere 2.2 percent public investment on education sector, Pakistan's education system faces systemic productivity challenges. Primary enrollment rate is stagnant at 67 percent whereas literacy rate stands at **62%**, with significant gender and rural-urban disparities. The **out-of-school children** has increased to **26 million**, among the highest globally¹⁸. Learning outcomes¹⁹ are poor mentioned in the ASER (2023) and World Bank. Teacher absenteeism, outdated curricula, poor school infrastructure contribute to an education system that struggles to translate inputs into quality outcomes. The private sector fills some gaps but with wide quality variation. Moreover, Pakistan's education system is insufficiently aligned with labor market needs, with a skills mismatch leading to high graduate unemployment.

Goal 5 – Gender Equality:

Enhancing gender equality directly boosts productivity at the firm, sectoral, and national levels. Studies show that narrowing gender gaps in employment and entrepreneurship leads to faster economic growth, greater innovation, and higher overall GDP.²⁰

¹⁵Food and Agriculture Organization, *World Food and Agriculture – Statistical Yearbook 2021* (Rome: FAO, 2021), <https://openknowledge.fao.org/server/api/core/bitstreams/522c9fe3-0fe2-47ea-8aac-f85bb6507776/content>

¹⁶World Bank, *World Development Report 2022: Finance for an Equitable Recovery*, (Washington, DC: World Bank, 2022), doi:10.1596/978-1-4648-1730-4. <https://www.worldbank.org/en/publication/wdr2022>.

¹⁷World Health Organization, *World health statistics 2022: monitoring health for the SDGs, sustainable development goals* (Geneva: World Health Organization, 2022). Licence: CC BY-NC-SA 3.0 IGO, <https://iris.who.int/bitstream/handle/10665/356584/9789240051140-eng.pdf?sequence=1>

¹⁸United Nations Educational Scientific & Cultural Organization, *UNESCO Publication-2023*, <https://unesdoc.unesco.org/ark:/48223/pf0000387163/PDF/387163eng.pdf.multi>.

²⁰International Monetary Fund, *Build Forward Better IMF Annual Report 2021*, (IMF, 2021), <https://www.imf.org/external/pubs/ft/ar/2021/eng/downloads/imf-annual-report-2021.pdf>.

Gender inequality remains a critical barrier to productivity in Pakistan. Global Gender Gap Report (2024) shows Pakistan ranks **142nd out of 146 countries**, one of the lowest globally. Women's labor force participation is only **22%** (Pakistan Bureau of Statistics, 2023). Even when women do work, they often occupy low-productivity, informal, or unpaid sectors such as home-based work and subsistence agriculture. LFS (2021) reports 42 percent graduated females are unemployed. The productivity cost of this exclusion is staggering. McKinsey Global Institute report (2022) estimated that closing gender gaps could add up to **30%** to Pakistan's GDP by 2025. Barriers include social and cultural norms that creates hurdles in limited access to education, financial services, technology, mobility restrictions, and societal norms that discourage women's economic engagement. Moreover, women-led businesses face **30–50% lower productivity** levels than male-led businesses due to lack of networks, capital, and support services.²¹

Goal 6 – Clean Water and Sanitation:

Productivity improvements are critical in WASH sector because efficient use of water resources, better sanitation infrastructure, and effective service delivery directly impact public health, agricultural productivity, industrial efficiency, reduce inequalities, improve climatic conditions and overall economic resilience.

Though 93 percent households are using drinking water from improved water sources, nonetheless, it does not guarantee that it is non-contaminated. On the other hand, Pakistan is facing an acute water crisis. Pakistan may face absolute water scarcity by 2025 if current trends continue (PCRWR, 2022). Pakistan produces only **\$1.37** of GDP per cubic meter of water, compared to **\$19.42** in China (World Bank, 2022), which implies lowest water productivity²² in the world: Agriculture consumes **over 93%** of freshwater resources. However over **60%** water losses are due to outdated canal systems and flood irrigation methods.

Similarly, sanitation coverage is also inadequate. As per UNICEF (2023), **25%** of the population lacks access to safely managed sanitation services. Poor sanitation contributes to widespread health problems, including diarrhea, stunting, and malnutrition, that reduces human productivity and economic potential.

Goal 7 – Clean and Affordable Energy:

Productivity improvements in the energy sector through better efficient generation, distribution, and consumption are central to achieving this goal. Greater energy productivity reduces costs, minimizes environmental impacts, strengthens industrial competitiveness, and supports inclusive economic growth.

Pakistan faces a complex energy crisis characterized by shortages, inefficiency, and high costs. The country's **energy losses** (technical and non-technical) stand at approximately **19%** of total electricity generated (NEPRA, 2023), compared to a global best practice benchmark of **6–8%**. Frequent load shedding in rural and urban areas undermines industrial productivity and deters investment. World Bank (2022) estimates show that unreliable electricity supply causes an average **16% productivity loss** for Pakistani firms. Energy generation is heavily dependent on imported fossil fuels making the sector vulnerable to global price shocks. Pakistan has expanded renewable energy to around **6%** of its total energy mix.²³ Energy affordability is also a major concern: high electricity tariffs disproportionately affect low-income households and small businesses, limiting their economic participation and productivity.

²¹World Bank, *World Bank Annual Report 2023* (Washington, DC: World Bank, 2023), doi: 10.1596/AR2023EN. L, <https://hn.usembassy.gov/wp-content/uploads/sites/164/2024/05/AR2023EN.pdf>.

²² measured as the economic output per cubic meter of water used

²³Altaf, Bilal Kazim Butt, Muhammad Fahim et al., "Alternative Energy & Power 2023 Definitive Global Law Guides Offering Comparative Analysis from Top-Ranked Lawyers Law and Practice," Accessed April 30, 2025, <https://riaabarkergillette.com/pk/assets/uploads/2023/11/2.-Chambers-Alternative-Energy-and-Power-2023.pdf>.

Goal 9 – Industry, Infrastructure and Innovation:

Productivity is fundamental for efficient industries, innovative enterprises, and modern infrastructure. It drives economic diversification, technological progress, job creation, and competitiveness. Higher productivity in manufacturing and services sectors leads to faster economic growth and greater resilience against shocks.

Pakistan's industrial productivity remains low compared to global standards. Manufacturing value added as a percentage of GDP declined from **13.2% in 2010 to 11.9% in 2023** (Pakistan Economic Survey – Various Issues). Labor productivity growth in manufacturing averages around **1.5% annually**, far below that of regional peers whose manufacturing sectors have expanded rapidly.²⁴

Innovation activity is limited: Pakistan ranks **99th out of 132 countries** in the Global Innovation Index 2023 (WIPO, 2023). Research and development (R&D) expenditure is less than **0.2% of GDP**, compared to **2.2% in China** (UNESCO, 2023). Patent registrations, a key indicator of innovation output, are minimal, only **237 domestic patents** filed in 2022 (IPO Pakistan, 2023).

Infrastructure challenges including poor transportation networks, inadequate logistics, unreliable electricity, and weak digital connectivity significantly impede industrial productivity. The Logistics Performance Index (World Bank, 2023) ranks Pakistan **122nd out of 139 countries**, reflecting inefficiencies that raise business costs and reduce export competitiveness.

Goal 11 – Sustainable Cities and Communities:

Relationship between productivity and urban development is critical because efficient cities with well-functioning infrastructure, services, and governance systems create economic opportunities, improve quality of life, and promote social cohesion. Urban areas are hubs for economic activity and innovation, but only if they are planned and managed in ways that maximize the potential of human capital and resources. Stronger bond within communities help in understanding the issues, increases productivity and efficiently utilise resources for betterment of cities.

Pakistan's urbanization rate has been increasing rapidly, with the urban population growing at an annual rate of **2.7%** (World Bank, 2022). Cities such as Karachi, and Lahore are facing critical challenges related to infrastructure, housing, transportation, and public services. The lack of integrated planning, inadequate housing, poor waste management, and traffic congestion are critical obstacles to enhancing productivity in these urban centers. The informal urbanization is not only a barrier to improving living standards but also hinders the ability to enhance productivity, as informal settlements are often disconnected from formal economic activities. Furthermore, cities are major contributors to environmental degradation, with poor air quality, waste accumulation, and inadequate public transport systems all diminishing the potential for sustainable urban productivity.

(To be continued in next Issue)

²⁴Asian Development Bank, 2023 Annual Portfolio Performance Report, (Philippines, ADB, 2024). <https://www.adb.org/documents/2023-annual-portfolio-performance-report>.



Celebrating Constitution Day 2025 — Group photo of participants, with Executive Director PIPS Mr. Asim Khan Goraya at the Seminar organized by PIPS, April 10, 2025.



Group photo of the participants of three-day Capacity-Building Workshop on 'Hansard and Verbatim Reporting' for officers of the National Assembly, with the Executive Director PIPS, Mr. Asim Khan Goraya, April 21–23, 2025.



Executive Director PIPS Mr. Asim Khan Goraya welcomes UN Women Country Representative Mr. Jamshaed M. Kazi to discuss collaborative initiatives, including the launch of an AI School and promotion of gender-inclusive technology and policies, April 17, 2025



Group photo of the participants and organizers with worthy Executive Director PIPS Mr. Asim Khan Goraya at the inaugural of the 3-day Women Parliamentary Caucus, Punjab Work Plan Workshop hosted by PIPS, April 28, 2025.



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For feedback feel free to contact Editor at:
 Ataturk Avenue (Service Road), F-5/2, Islamabad
 Email: research@pips.gov.pk
 Web: www.pips.gov.pk

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