Question:

Artificial Intelligence in Pakistan: A dream or delusion? Critically evaluate key intiatives in AI sector and the challenges in realizing its potential.

Answer:

Introduction:

Artificial intelligence has emerged as a defining and transformative force with the potential to reshape societies, individual life, governance and economies. For Pakistan, a country striving to overcome structural challenges with seeking rapid (modernatization) modernization, AI embodies both promises and perils. Pakistan, with its growing digital economy, sizable

youth population and expanding IT sector, has a unique opportunity to harness AI for growth. It promises efficiency in governance, innovation in healthcare, agriculture and education, and avenues for economic revival. The question that looms large is that Pakistan can transform dream into national reality or it will be remained trapped under technological delusion.

AI in Pakistan: A dream or Delusion

The state of AI in Pakistan reflects both dream of digital transformation and delusion of infrastructure and governance gaps.

➔ Pakistan- The AI opportunity

Pakistan has made a noteable progress in digital connectivity with

13 million broadband users and 43% mobile broadband penetration rate as of early 2024 (UNDP NHDR 2024. Doing for Digital Development). The report Doing Digital Development Index showed a strong link between digital transformation and improved human development outcomes.

~~teaching~~

- According to (Better than Cash Alliance, full adoption of digital payments could rise growth (by 276% 2025-2030) to about 7%. Reflecting this momentum, Pakistan's AI market is projected to rise by 276% between 2025-2030, with reaching upto 3 billion US dollars.

- Initiatives such as PIAIC and NAI policy reflects Pakistan's ambition to harness AI for growth.

Government Policies and Initiatives

1. National Center for AI (NCAI)

→ Headquarted at NUST, Islamabad. NCAI serves as a national hub of excellence in AI. It focuses on research, innovation, production development and skill enhancement through special Training Programs.

→ NCAI has developed over 220 products and designs for precisin agriculture, healthcare diagnostics, media monetary, judiciary support and urban management.

2. Ministry of Planning, Development and Special Initiatives

A dedicated AI taskforce under this ministry is designing a roadmap to integrate AI into national development. Key areas of focus include skill workforce development and commercialization of AI products and services.

3. AI Tech Parks

AI technology Parks aims to foster startups and support innovation.

4. NADRA's AI system:

→ A remarkable example of AI based service delievery in Pakistan is NADRA's AI based eKYC. Introduced in 2021, it addresses the difficulties faced by elderly individuals or senior citizens, particularly farmers and women laborers - whose worn fingerprints were often unreadable by Automated Fingerprint Identification Systems.

→ NADRA's senior engineers developed a AI-powered system that generates random family-tree questions, allowing only the authentic individual to respond correctly. This initiative has streamlined Know your Custom (KYC), enabling citizens to access pensions, conduct transactions and other things without biometric hurdles.

5. National AI Policy:

Pakistan's Ministry of Artificial Technology and Telecommunication introduced a ifr, Draft National AI Policy in May 2023. It emphasizes date privacy, security, fairness in all AI sectors to ensure that, benefits in all domains of society through AI. A part of large framework, it meant to serve as a building block towards transforming Pakistan into a digital nation. On July 31, 2025, Pakistan's federal cabinet unanimously approved Policy making a significant step too. towards knowledge-based economy.

Economic Transformation through AI
⇒ The Uraan Initiation:

Launched in 2024, this initiative aims at Pakistan's economic revival through AI Technology. This initiative

plan a target of export-led GDP growth of 6% by 2028, with AI playing a pivotal role.

Public Sector Initiatives:

AI adoption in Pakistan public sectors is recent but promising. The Digital Nation Pakistan Act has established the Digital Nation Authority to oversee data governance, support innovation and regulate technology through AI. AI applications are underway for predicting crop yield, sustained water usage license plate recognition and predictive crime analystics.

Educational Development through AI

Pakistan has established numerous initiatialies to promote AI literacy.

Pak President's Artificial Intelligence intiative with 100,000 students to promote AI, blockchain, cloud-computing.

UNESCO's Masterclass series in Pakistan with over 200 academies.

"Pakistan's demographic advantage can be maximized through AI literacy and skill development."

Challenges:

With all these promises, AI exhibit certain challenges in Pakistan. Pakistan's largest data center is of only a **3MW capacity** which is insufficient.

⇒ Digital Divide and Infrastructure gap

Large sections of Pakistan live in rural areas limiting to access of AI. This limits availability of human capital and their development. The insufficient research infrastructure ga produces

a gap between potential and governance.

→ Limited Skilled Workforce :

Despite initiatives like PIAIC, only 10% IT graduates are employable according to State Bank of Pakistan (2023). This increases the urgent need for the literacy of AI in institutions by training programes to have skilled workforce.

→ Economic constraints

The development in AI requires massive funding in research, infrastructure and human development. Pakistan's fragile economy and low fiscal space limits AI enhancement.

→ Policy implementation gap.

Pakistan has formulated AI policies and frameworks, but

poor execution continues to limit their impact. Pakistan's policy makers must ensure an open and stable digital development.

→ Ethical Concerns

Biased AI algorithms, data privacy risks and low cybersecurity measures raises ethical and security concerns.

Conclusion:

AI has the potential to reshape Pakistan's economic and social landscape, but this promise remains fragile without consistent action. Pakistan stands at a critical juncture where aspiration must be matched with execution. By strengthening institutions, investing in people and fostering an environment of trust and

stability, Pakistan can move from aspiration to achievement. If neglected, AI will remain an unrealized vision.