



# A Statistical Analysis of the Social Impact of AI on Job Displacement & Replacement in South Asia & Africa<sup>1</sup>

Dr NR Jagannath-Statistician and Institutional Reforms Specialist <sup>2</sup>

## How to Cite this Article:

Jagannath, D. N. (2026). A Statistical Analysis of the Social Impact of AI on Job Displacement & Replacement in South Asia & Africa. International Journal of Creative and Open Research in Engineering and Management, <i>02</i>(7), 1-9.  
<https://doi.org/10.55041/ijcope.v2i7.146>

## License:

This article is published under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

© The Author(s). Published by International Journal of Creative and Open Research in Engineering and Management.



<https://doi.org/10.55041/ijcope.v2i7.146>

## AN ABSTRACT

Artificial intelligence (AI) is rapidly reshaping labour markets across South Asia and Africa, two regions whose demographic and economic structures both amplify risk and create opportunity. Youthful populations entering the workforce at scale, large shares of informal and agricultural employment, and concentrated digital and outsourcing hubs create a complex patchwork of exposure: pockets of intense AI adoption sit beside vast swathes of low-digitisation employment. Drawing on quantitative syntheses from the World Bank, IMF, ILO, World Economic Forum, and industry studies, this paper examines how AI-driven displacement (the loss of existing roles through automation) and replacement (the creation of new roles either directly within AI ecosystems or indirectly through productivity-led growth) interact across sectors, demographic groups, and national contexts. We organise impacts through four channels: substitution (automation of routine tasks), productivity (cost reductions that may expand demand), task recomposition (reshaping jobs toward less automatable tasks), and new-job creation (emergent AI-adjacent occupations). Empirical patterns reveal strong sectoral concentration. Formal, export-oriented, and digitally intensive sub-sectors—IT–BPO, ready-made garments (RMG), customer support, and banking—carry the highest AI exposure. Bangladesh’s RMG and BPO-linked activities have shown notable job losses, disproportionately affecting women; India’s large IT–BPO workforce is flagged as highly susceptible to

automation by 2030; and financial and BPO hubs in Nigeria, Kenya, Ghana, and South Africa present both displacement and emergent replacement dynamics. By contrast, agriculture and informal trade—which employ the majority of workers—remain comparatively insulated today due to low AI penetration, even as their structural vulnerability persists if adoption accelerates. Regional projections imply net job creation is possible but uneven and conditional. Global forecasts (WEF, IFC) point to large gross new-role estimates—AI engineers, data annotators, fintech and cybersecurity specialists, and expanded digital-services employment—while simultaneously underscoring vast reskilling needs. The net social outcome thus depends on whether labour-market institutions, education systems, and infrastructure can bridge the gap between displaced workers and newly created roles. Distributional heterogeneity is pronounced. Gendered patterns show women concentrated in export manufacturing and routine services are more exposed in many countries, though India’s agricultural employment profile produces an exception. Young and moderately educated entrants face elevated entry-level displacement risk, undermining traditional first-step pathways into formal employment. Educational and digital-skill divides amplify these effects: limited access to computer-science curricula, low mobile-internet penetration in rural areas, and inconsistent electricity constrain upward mobility into AI-complementary occupations.

<sup>1</sup> Factual errors either in the text, in numbers or in citations if any are subject to correction on notification

<sup>2</sup> Disclaimer: The views, opinions, and conclusions expressed in this research paper are solely those of the author and do not necessarily reflect the official policy or position of any government, institution, organization, or entity with which the author was earlier affiliated. This work represents the author's personal analysis and should not be attributed to any external body or organization.

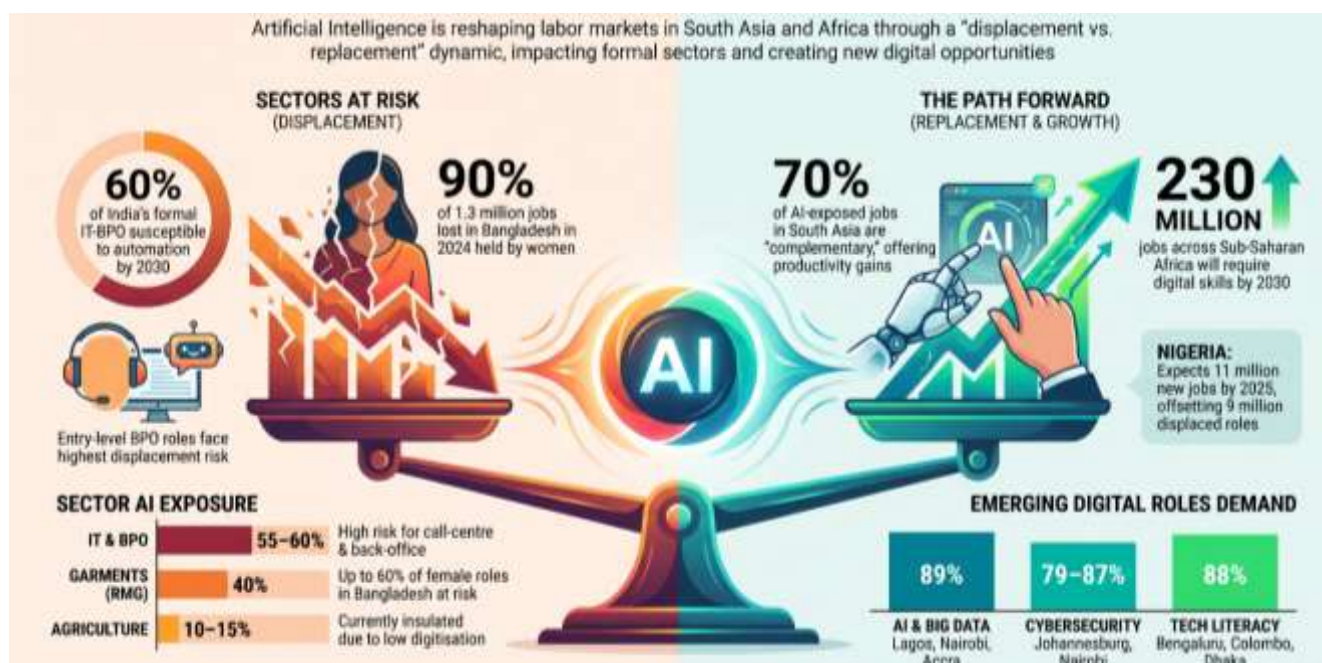


Consequently, social impacts centre on heightened income inequality, deeper rural–urban and regional disparities, and persistent skill gaps, with transition costs falling on displaced garment, BPO, and customer-service workers. Policy responses emerging from the statistical synthesis prioritise targeted reskilling and TVET reform, expanded digital education and connectivity, labour-market adjustment supports, and inclusive AI deployment strategies that favour augmentation over outright substitution. Robust monitoring systems—disaggregated by sector, gender, age, and geography—are essential to track real-time displacement and replacement. The principal policy challenge is not simply managing aggregate job counts but ensuring equitable transitions that close infrastructure and skills gaps and protect those most vulnerable to the labour-market disruption AI is already beginning to deliver.

**Keywords:** AI, labour markets, displacement, job replacement, South Asia, Sub-Saharan Africa, IT-BPO, ready-made garments, skills gap, digital infrastructure, gender disparities, youth employment.

## I-INTRODUCTION

The following infographic outlines how artificial intelligence is currently transforming labor markets across South Asia and Africa. While job displacement is heavily concentrated in formal sectors like IT-BPO and garment manufacturing, the study notes that the massive agricultural and informal sectors remain largely insulated for now. The author highlights significant social risks, including widened income inequality and gender disparities, particularly noting how women in Bangladesh face high automation risks. Conversely, the text identifies opportunities for job replacement through the emergence of new digital roles, provided there is sufficient investment in education and infrastructure. Ultimately, the sources argue that the net impact of AI depends on the ability of policymakers to bridge the existing skills gap through targeted reskilling and improved digital connectivity.



Artificial intelligence (AI) is reshaping labour markets across South Asia and Africa, two regions defined by young, fast-growing populations, large informal economies, and rapidly expanding digital and outsourcing sectors. While AI adoption in these regions has generally lagged advanced economies, both regions host globally significant pockets of AI exposure — India's and the Philippines-adjacent outsourcing hubs, Bangladesh's export-oriented garment industry, and South Africa's, Kenya's, Nigeria's, and Ghana's financial and business-process-outsourcing (BPO) sectors. This paper presents a statistical analysis of the social impact of AI on job displacement and replacement across economic sectors in South Asia and Africa, drawing on World Bank, IMF, World Economic Forum, ILO, and industry-report data.



The core questions are:

- How strong is the evidence that AI is displacing jobs in South Asia and Africa, and in which sectors?
- What is the magnitude of job replacement (new roles created) relative to displacement in these regions?
- How do these effects vary by demographic group (age, gender, education) and by country or sub-region?
- What are the likely social implications — inequality, rural–urban and regional disparities, and skill gaps — for South Asia and Africa specifically?

The analysis synthesises existing quantitative findings from regional and global sources and frames them in a coherent statistical narrative, rather than presenting new primary data.

## II-CONCEPTUAL FRAMEWORK

### 2.1 *Displacement vs. Replacement*

- Displacement: Reduction in employment in occupations or sectors due to AI-driven automation of tasks — most visible in South Asia and Africa within formal, digitally intensive sub-sectors such as IT-BPO and export manufacturing.
- Replacement: Creation of new jobs, either directly in AI-related fields (e.g., data annotation, AI operations) or indirectly through productivity-driven growth in adjacent digital services.

The net social impact depends on the balance between displacement and replacement, and — critically in South Asia and Africa — on the very large share of the workforce that remains in agriculture and the informal economy, where AI penetration is currently low but structural vulnerability to future automation is high.

### 2.2 *Channels of Impact*

AI affects employment in these regions through:

- Substitution effect: Tasks previously performed by workers in call centres, garment lines, and back-office functions are automated, reducing labour demand in formal, export-oriented segments.
- Productivity effect: Lower costs and higher output can raise demand for goods and services, potentially expanding employment in adjacent sectors such as logistics, digital services, and fintech.
- Task recomposition: Workers shift toward less automatable, higher-value tasks — a pathway that depends heavily on access to digital skills training, which remains uneven across South Asia and Africa.
- New job creation: Emerging categories such as AI engineers, data annotators, and Global Capability Centre (GCC) roles are growing in India, while fintech and cybersecurity roles are expanding across Sub-Saharan Africa.

## III-EMPIRICAL EVIDENCE ON SECTORAL DISPLACEMENT

### 3.1 *Overall Displacement Figures*

Recent estimates for South Asia and Africa indicate:

- In Bangladesh, roughly 40% of the workforce is estimated to face disruption from AI and automation, with women and garment workers among the most vulnerable; official labour data cited in a 2026 report noted the country lost nearly 1.3 million jobs in 2024, about 90% of them held by women.
- In Bangladesh's ready-made garments (RMG) sector, some projections suggest up to 60% of female jobs could disappear by 2041 if current automation trends continue.



- In India, government analysis cited in recent coverage suggests over 60% of formal-sector jobs — particularly in IT and BPO — are “susceptible to automation” by 2030, though the same analysis stresses that whether the sector is a net job creator or net job loser depends on the strategic choices made now.
- In Nigeria, the World Economic Forum's Future of Jobs Report 2025 projects that AI and information-processing technologies will displace roughly 9 million jobs while creating about 11 million new ones, a modest net gain.
- Across South Asia as a whole, only about 22% of jobs are classified as exposed to AI — a share similar to Sub-Saharan Africa and East Asia and the Pacific — and just 7% are both highly exposed and at real risk of displacement, well below comparable shares in other emerging-market regions.

These figures suggest that, while displacement is real and concentrated, the overall share of the South Asian and African workforce directly exposed to AI remains considerably lower than in advanced economies, largely because of the continued weight of agriculture and informal work.

### 3.2 Sector-Level Risk

Multiple studies and industry reports provide sector-specific risk estimates for South Asia and Africa:

| Sector                                                                                | Approx. AI Exposure / Risk     | Key Roles / Regional Context                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IT & Business Process Outsourcing (India, Sri Lanka, Kenya, South Africa, Ghana)      | ~55–60%                        | Call-centre agents, transactional back-office staff, junior software testers; India's IT-BPO sector alone employs several million and over 60% of its formal roles are considered susceptible to automation by 2030. |
| Ready-Made Garments & Textile Manufacturing (Bangladesh, Sri Lanka, Lesotho)          | ~40% of Bangladesh's workforce | Sewing-line operators, quality inspectors; up to 60% of female garment jobs in Bangladesh could disappear by 2041 as automation accelerates in export-oriented manufacturing.                                        |
| Customer Support & Voice/Chat Services (Bangladesh, Philippines-adjacent hubs, Kenya) | ~45–50%                        | Chat and voice-support agents; AI chatbots have already displaced individual workers at Dhaka-based BPO firms and reduced team sizes by 20–30% on some projects.                                                     |
| Banking & Financial Services (South Africa, India, Nigeria, Kenya)                    | ~25–30%                        | Tellers, compliance and fraud-review staff, customer-facing analysts; South African banks already use AI for compliance and fraud detection, and Kenyan fintechs are piloting AI chatbots.                           |
| Public Administration (Nigeria, other large public-sector employers)                  | ~25–35%                        | Routine clerical and administrative roles; the public service is Nigeria's largest employer and is considered highly exposed given its share of repetitive, predictable tasks.                                       |
| Agriculture & Informal Trade (across South Asia and Sub-Saharan Africa)               | ~10–15% direct exposure        | Subsistence farmers, small traders, artisanal workers; low digitisation and limited AI penetration currently shield this sector, though it                                                                           |



| Sector     | Approx. AI Exposure / Risk | Key Roles / Regional Context                                                                                                                                       |
|------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |                            | employs the majority of the workforce in both regions.                                                                                                             |
| Education  | ~20–25%                    | Administrative and grading-support functions; core teaching roles remain comparatively insulated, though demand for digitally literate teachers is rising sharply. |
| Healthcare | ~15–20%                    | Medical transcription and coding support; frontline clinical and care roles are expected to grow rather than shrink given demographic needs.                       |

Statistical patterns show that formal, export-linked, and digitally intensive sub-sectors — IT-BPO, garment manufacturing, customer support, and banking — carry the highest exposure, while agriculture and informal trade, which still employ the majority of workers in both regions, remain comparatively insulated for now but are structurally more vulnerable to future mechanisation and lower-productivity traps.

## IV-STATISTICAL PATTERNS IN JOB REPLACEMENT

### 4.1 Net Job Creation Projections

Key quantitative projections relevant to South Asia and Africa:

- World Economic Forum (2025): globally, 92 million jobs displaced and 170 million created by 2030, a net gain of 78 million — but with Sub-Saharan Africa and the Middle East/North Africa expected to see far less robotics-driven transformation (only 39% and 44% of employers respectively anticipate significant robotics impact, versus over 60% in leading economies).
- Nigeria specifically: about 9 million jobs displaced against 11 million created under WEF's 2025 projections, a comparatively narrow margin of net job creation.
- International Finance Corporation (IFC): by 2030, roughly 230 million jobs across Sub-Saharan Africa — including about 28 million in Nigeria alone — will require digital skills, underscoring the scale of the reskilling challenge ahead.
- South Asia: because AI-exposed jobs tend to be better paid, they account for about 42% of all wage earnings in the region despite representing a minority of total jobs — meaning the income stakes of displacement are disproportionately large relative to headcount.

These projections imply that net job creation is plausible at the regional level, but the margin is narrower than in global aggregate figures, and the distribution of gains and losses across countries, sectors, and demographic groups is the central social concern.

### 4.2 Emerging Roles

AI is also generating new categories of employment across the two regions:

- India: rapid growth of Global Capability Centres (GCCs), AI-centred roles in drug discovery, predictive-maintenance systems, IoT+AI applications in manufacturing, and government-backed initiatives such as the IndiaAI Mission.



- Sub-Saharan Africa: employers report the fastest-rising demand for AI and big-data skills (89% of employers), technological literacy (88%), and network/cybersecurity skills (79–87%), reflecting the emergence of fintech, cybersecurity, and digital-services roles in hubs such as Lagos, Nairobi, and Accra.
- South Africa, Kenya, Ghana, Mauritius, and Senegal continue to serve as established BPO and digital-services hubs, generating formal-sector jobs even as some routine roles within those same firms are automated.

However, as in the global pattern, many of these emerging AI-adjacent roles require advanced digital skills or postgraduate qualifications that remain out of reach for large shares of the workforce in both regions, particularly outside major urban centres — indicating a substantial and persistent skills gap.

## V-DEMOGRAPHIC AND GEOGRAPHIC HETEROGENEITY

### 5.1 Gender Differences

Statistical evidence points to pronounced gender disparities in exposure across South Asia and Africa:

- In Bangladesh, roughly 90% of the 1.3 million jobs lost in 2024 were held by women, concentrated in the garment sector, and up to 60% of female RMG jobs could disappear by 2041 under current automation trends.
- India is a notable exception within the emerging-market pattern: IMF microdata analysis finds Indian women have lower occupational AI exposure than men, largely because of women's substantial employment in agriculture, which currently carries lower AI exposure than urban service and retail work.
- Across most other emerging markets studied, including South Africa, women are more exposed to AI than men, primarily due to concentration in middle-skill service and retail occupations that carry relatively higher exposure than manual or agricultural labour.

This suggests that AI's gendered impact in South Asia and Africa is highly sector-dependent: it may worsen outcomes for women concentrated in export manufacturing and services, while women in agriculture-dominated economies may face comparatively lower near-term direct exposure — though often at the cost of remaining in lower-productivity, lower-paid work.

### 5.2 Age Differences

Young workers face distinct risks in both regions:

- In South Asia, moderately educated, young workers are identified as the most vulnerable group to AI-driven job displacement, even though the region's overall exposure rate remains comparatively low.
- The ILO estimates Sub-Saharan Africa will add approximately 700 million young people to its working-age population by 2030 — the largest youth cohort in human history — intensifying pressure on labour markets to absorb new entrants even as automation reshapes entry-level roles.
- In Bangladesh's BPO sector, workers in entry-level customer-support and quality-assurance roles have already experienced job losses as firms adopt AI-driven chatbots and automated quality checks.

This pattern points to a substantial youth-employment risk in both regions: rapidly growing working-age populations are entering labour markets in which automation is simultaneously narrowing the pool of routine, entry-level roles that have traditionally served as a first step into formal employment.

### 5.3 Education and Skill Levels

AI exposure and its social consequences are closely tied to education and digital-skill levels:

- South Asia stands out globally for the high complementarity of its AI-exposed jobs: about 70% of exposed jobs (15% of all jobs) are complementary to AI rather than substitutable — the highest share among emerging-market



and developing-economy (EMDE) regions, where the average is 48% — meaning many exposed South Asian workers are positioned to gain productivity benefits rather than be displaced, provided they have the requisite skills.

- In Sub-Saharan Africa, fewer than 30% of secondary-school students have access to computer-science or digital-technology coursework, a figure that falls sharply in rural and underserved communities, constraining the pool of workers able to move into AI-complementary roles.
- Mobile internet penetration across Sub-Saharan Africa remains below 50%, and high data costs and inconsistent electricity access further limit digital participation, particularly outside major cities.

Thus, AI appears to reinforce existing skill- and infrastructure-based inequalities in both regions: workers with digital access and training are positioned to benefit, while those without face a widening gap in opportunity.

#### **5.4 Economy Type and Regional Variation**

- South Asia: approximately 22% of jobs are AI-exposed overall, with wide variation by country — Nepal has the lowest average exposure, while Bhutan and Sri Lanka show the highest, reflecting their comparatively more skilled and educated workforces.
- Sub-Saharan Africa: overall exposure remains low relative to advanced economies, with an AI-preparedness index of roughly 0.34 (versus 0.74 in North America), reflecting limited AI infrastructure and adoption — but with sharp pockets of high exposure concentrated in South Africa's, Kenya's, Nigeria's, and Ghana's formal and BPO sectors.
- Low-income countries generally show the lowest AI-preparedness scores of any income group (around 0.32), suggesting that while immediate displacement risk is limited, these economies are also least positioned to capture AI-driven productivity gains without significant infrastructure and skills investment.

This indicates that AI's labour-market impact in South Asia and Africa is currently concentrated in a relatively narrow band of formal, urban, and export-linked sectors, even as the much larger informal and agricultural workforce remains, for now, largely outside the direct reach of AI-driven automation.

## **VI-STATISTICAL RELATIONSHIPS: AI EXPOSURE AND EMPLOYMENT OUTCOMES**

### **6.1 Cross-Country Evidence**

An IMF study of worker-level microdata across four emerging markets — Brazil, Colombia, India, and South Africa — alongside the US and UK, found:

- Advanced economies show higher unadjusted AI exposure than these emerging markets, largely due to a higher employment share in professional and managerial occupations.
- When accounting for complementarity, differences in exposure across advanced and emerging economies become more muted, since many emerging-market jobs — including in India — combine high exposure with high complementarity.
- Within both country groups, common patterns emerge: women and highly educated workers face greater occupational exposure to AI at both high and low complementarity, except in India, where women's substantial employment in agriculture gives them lower exposure than men.

This supports the interpretation that, in India and South Africa alike, the productivity-enhancing complementarity effect can dominate for digitally skilled, formally employed workers, while the substitution effect is more pronounced for those in lower-skill, lower-complementarity roles.

### **6.2 Firm-Level Evidence**

Firm-level evidence from South Asia and Africa illustrates how these dynamics play out on the ground:



- Bangladeshi BPO firms report concrete workforce reductions: one Dhaka-based operator cut team sizes by 20–30% on an e-commerce project after adopting AI-driven quality assurance, while individual customer-support agents have lost roles to AI chatbots introduced by client firms.
- Indian BPO and IT-services firms are increasingly integrating AI into service delivery, with recent layoff announcements at major IT firms illustrating AI's disruptive potential — even as growing demand for data-centre capacity and AI applications in healthcare and education offsets part of the impact.
- South African banks have adopted AI for compliance and fraud detection, and Kenyan firms are piloting AI-driven chatbots — early signs of formal-sector AI adoption reshaping specific job functions rather than eliminating entire occupations outright.

These findings indicate that AI's impact in South Asia and Africa is highly heterogeneous and often firm- and function-specific: it can be job-creating and productivity-enhancing in some formal-sector contexts, while directly displacing workers in others, particularly in routine customer-facing and manufacturing-support roles.

## **VII-SOCIAL IMPACT: INEQUALITY, REGIONAL DISPARITIES, AND SKILL GAPS**

### ***7.1 Inequality***

AI's labour-market effects in South Asia and Africa are likely to:

- Increase income inequality between digitally skilled, formally employed urban workers and the much larger informal and agricultural workforce.
- Widen gender inequalities in export-manufacturing economies such as Bangladesh, even as the picture is more mixed in agriculture-dominated economies such as India.
- Deepen regional and rural-urban disparities, as AI-related gains concentrate in outsourcing and financial hubs — Bengaluru, Dhaka, Colombo, Johannesburg, Nairobi, Lagos, and Accra — while rural and peri-urban areas see limited direct benefit and remain constrained by low connectivity and electricity access.

### ***7.2 Skill Gaps and Transition Costs***

- A persistent skills mismatch is evident in both regions: displaced BPO, garment, and customer-service workers typically lack the advanced digital qualifications needed for emerging AI-adjacent roles.
- In Bangladesh, policy instruments have not kept pace with the challenges posed by AI, automation, and the broader shift in labour-market requirements; Technical and Vocational Education and Training (TVET) reform has yet to be effectively integrated into sector-specific workforce-transition strategies.
- In Sub-Saharan Africa, employers cite skill gaps as a major barrier to transformation, and a majority plan to expand workforce-development programmes, though implementation remains inconsistent, particularly outside major cities.

### ***7.3 The Informal and Semi-Formal Economy***

- A large share of employment across both regions sits in the informal or semi-formal economy — subsistence agriculture, small-scale trade, and unregistered services — which is currently less exposed to AI but also less protected by labour policy, reskilling programmes, or social safety nets.
- Analysts note that Africa's near-term challenge is less about AI directly eliminating jobs and more about time and readiness: the risk is that young people are not being trained quickly enough to fill the digital roles that AI-driven growth will create, even as the continent's internet economy is projected to grow substantially by mid-century.
- The social cost of transition — income loss, disrupted communities, and the risk of a growing gap between a small formal AI-enabled workforce and a much larger informal one — must be weighed alongside any aggregate job-creation projections.



## VIII-POLICY IMPLICATIONS

Statistical evidence suggests several policy priorities for South Asia and Africa:

- Targeted reskilling and TVET programmes for workers in high-risk formal sectors, especially the RMG and BPO workforces, young workers, and women.
- Expanded digital-skill development at primary, secondary, and tertiary levels, with particular attention to closing the rural-urban gap in computer-science and digital-technology access.
- Investment in digital infrastructure — affordable connectivity and reliable electricity — as a precondition for any workforce to participate in AI-complementary roles.
- Labour-market adjustment support: income support, career counselling, and mobility programmes for workers displaced from garment manufacturing, BPO, and other export-linked sectors.
- Inclusive AI deployment that encourages applications augmenting, rather than replacing, workers in vulnerable formal-sector roles and in agriculture, where productivity-enhancing tools could raise incomes without displacing labour.
- Regional monitoring and evaluation systems — building on World Bank, IMF, and ILO data infrastructure — to track AI-induced displacement and replacement in real time, by sector, country, and demographic group across South Asia and Africa.

## IX-CONCLUSION

Statistical analysis indicates that AI is already displacing jobs in specific, formally organised sectors of South Asia and Africa — most visibly in Bangladesh's garment industry, India's IT-BPO sector, and the customer-service and banking functions of hubs such as Nairobi, Lagos, and Johannesburg — while the much larger agricultural and informal workforce remains comparatively insulated for now. Regional projections, including for Nigeria and South Asia as a whole, suggest that job replacement can roughly keep pace with or modestly exceed displacement, but the margin is narrower and less certain than global aggregate figures imply.

***The social impact is highly heterogeneous:*** Highly educated, digitally proficient, and formally employed workers — concentrated in outsourcing hubs and financial-services centres — tend to experience productivity gains and access to emerging AI-adjacent roles.

- Workers in export manufacturing and routine service roles, especially young workers and women in economies such as Bangladesh, face higher displacement risk and potential long-term scarring.
- The vast informal and agricultural workforce across both regions faces low direct AI exposure today, but limited access to reskilling, infrastructure, and social protection leaves it structurally vulnerable as AI adoption spreads.

The key challenge for policymakers across South Asia and Africa is not only to manage aggregate displacement versus replacement, but to ensure equitable transitions — closing digital-infrastructure and skills gaps, protecting the most exposed formal-sector workers, and preparing the region's large youth cohorts for a labour market being reshaped by AI faster than education and training systems are currently adapting.

## X-KEY RECOMMENDATIONS

Here are six titled recommendation paragraphs tailored to the paper's findings. Each paragraph is a concise policy recommendation with rationale and a practical focus.

1. **Strengthen targeted reskilling and TVET pathways:** Governments and development partners should design sector-specific reskilling programmes that prioritise workers in high-exposure formal sectors (RMG, BPO, customer support) and vulnerable groups (women and youth). Embed short modular courses, apprenticeships, and on-the-job upskilling tied to employer demand—covering digital basics, AI-adjacent tasks (data annotation, AI-ops), and



transferable skills (problem-solving, communication). Link incentives (wage subsidies, training stipends) to employer placement rates and require gender-disaggregated targets to reduce the risk of uneven uptake.

2. **Expand digital education and lifelong learning access:** Rewrite curricula at primary, secondary, and tertiary levels to mainstream computer-science, digital literacy, and foundational AI concepts, with special curricula for rural and under-served areas. Invest in low-cost, high-impact delivery (blended learning, mobile-first platforms, community learning hubs) and create nationally recognised micro-credentials to certify competencies. Support university–industry partnerships and scalable online bootcamps to transition mid-career workers into AI-complementary roles.

3. **Invest in affordable digital infrastructure and energy reliability:** Prioritise public and public–private investments in affordable broadband, reduced data costs, and reliable electricity in peri-urban and rural districts to close the infrastructure gap that restricts access to AI opportunities. Use targeted subsidies, special economic zones for digital hubs, and competitive procurement to lower connectivity costs for training centres, schools, and micro-entrepreneurs. Robust infrastructure is a precondition for both capturing productivity gains and enabling equitable geographic diffusion of new jobs.

4. **Design inclusive AI deployment incentives and procurement standards:** Encourage firms and public agencies to adopt AI systems that augment rather than replace workers through procurement rules, tax credits, and grant programmes that favour augmentation, human-in-the-loop designs, and explainable systems. Require impact assessments and worker transition plans for large-scale AI adoption in critical sectors (RMG, banking, public administration). Tie government contracts and incentives to demonstrable workforce retention, retraining commitments, or shared productivity gains.

5. **Strengthen social protection and labour-market adjustment supports:** Establish portable, time-bound income-support mechanisms, transitional wage insurance, and active labour-market services (career counselling, placement, mobility grants) for displaced workers, especially in export-linked clusters. Expand access to childcare, transport subsidies, and gender-sensitive support to remove barriers for women re-entering training or new employment. Coordinate social protection with reskilling programmes to reduce poverty shocks and long-term scarring.

6. **Build disaggregated monitoring, data systems, and regional coordination:** Create real-time, disaggregated monitoring systems—aligned with World Bank, ILO, and IMF frameworks—to track AI exposure, displacement, and job-creation by sector, gender, age, and region. Use labour-force surveys, firm-level reporting requirements, and digital job-platform data to inform adaptive policy. Promote regional knowledge-sharing platforms (South Asia–Africa exchanges) for best practices in TVET reform, employer-led training, and inclusive AI governance to accelerate policy learning across hubs.

## XI- ACKNOWLEDGMENT

My deepest gratitude goes to my professional network for their invaluable insights, feedback, and unwavering support throughout the writing of this paper. Their expert guidance was instrumental in shaping the analysis and perspectives presented. I am equally thankful to my family for their constant love, patience, and understanding, which provided essential strength and motivation. This endeavour would not have been possible without the collective support of my colleagues and loved ones.

## XII- ETHICAL CONSIDERATION

This research uses publicly available secondary data with ethical adherence to proper citations and avoiding confidentiality breaches and acknowledges the application of AI tools wherever applicable

## XIII- LIST OF ACRONYMS

1. **AI** Artificial Intelligence
2. **BPO** Business Process Outsourcing
3. **IFC** International Finance Corporation
4. **IMF** International Monetary Fund



5. **ILO** International Labour Organization
6. **IT** Information Technology
7. **IT-BPO** Information Technology–Business Process Outsourcing
8. **RMG** Ready-Made Garments
9. **TVET** Technical and Vocational Education and Training
10. **WEF** World Economic Forum
11. **Web** Website (used in the tool output)
12. **EMDE** Emerging Markets and Developing Economies
13. **GCC** Global Capability Centre
14. **IoT** Internet of Things
15. **API** Application Programming Interface (from tool output)
16. **JSON** JavaScript Object Notation (from tool output)
17. **XAM** Extensible Application Markup Language (from tool output)

### XIII-REFERENCES (SELECTED)

1. World Bank, “Labor Market Implications of AI Adoption in South Asia in Five Charts,” Office of the Chief Economist, South Asia Region.
2. International Monetary Fund, “Gen-AI: Artificial Intelligence and the Future of Work,” Staff Discussion Note, 2024.
3. Pizzinelli, C., Panton, A., Tavares, M. M., Cazzaniga, M., & Li, L., “Labor Market Exposure to AI: Cross-Country Differences and Distributional Implications,” IMF Working Paper, 2023.
4. World Economic Forum, “The Future of Jobs Report 2025,” including regional analysis on Sub-Saharan Africa and Nigeria.
5. BFA Global, “AI and Semi-Formal Work: The Hidden Jobs Story in Emerging Markets,” 2025.
6. International Finance Corporation (IFC), digital-skills projections for Sub-Saharan Africa and Nigeria, cited in “The Future of Work: AI's Impact on Nigeria's Job Market.”
7. Reports on Bangladesh's garment and BPO sectors, including The Daily Star, “BPO's Next Chapter: Survive the AI Wave or Sink,” and coverage of the 2026 report “AI, Automation May Disrupt 40% of Bangladesh Jobs.”
8. Coverage of NITI Aayog and Indian government analysis on AI exposure in India's IT-BPO sector, and UN Technology Envoy commentary on AI and Indian employment.
9. “Toward an African Agenda for AI Safety” and “Africa Is Not Losing Jobs to AI — It Is Losing Time,” on digital-infrastructure gaps and youth employment in Sub-Saharan Africa.