

# Artificial Intelligence – The Policy Challenge for Low and Middle Income Countries

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# Background: The Web Foundation

- The Web Foundation fights for digital equality — a world where everyone can access the web and use it to improve their lives
- We were founded by the inventor of the web, Sir Tim Berners-Lee, who gave it to the world for free
- Our work: research, advocacy, and practical innovation  
→ policy change in low and middle income countries.
- As the diffusion of AI spreads we need to understand its impacts on low and middle income countries



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**ARTIFICIAL  
INTELLIGENCE**

**MACHINE  
LEARNING**

**DEEP  
LEARNING**

# Artificial Intelligence: Putting the Pieces Together



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# Artificial Intelligence as a Disruptor

- Like the web, AI can be a positive force for
  - Political change: openness and style of government
  - Social change: better delivery of public services and goods
  - Economic change: whole new categories of jobs
- However, we need to ensure that all groups will also benefit from this technology
- The problem today is that much of the discourse around AI and its implications is taking place in the US and Europe



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# AI in Low and Middle Income Countries

- Web Foundation [White Paper](#) on AI in LMICs
- Also, Web Foundation [report](#) on the implications of AI in three African countries (Kenya, Nigeria, and South Africa).



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# AI Trends and Opportunities in Africa

- Health
  - SophieBot (Kenya) – chatbot providing free advice on sexual and reproductive health
- Agriculture
  - Aerobotics (South Africa) – machine learning on aerial imagery to identify problems in crop yields.
- Finance
  - Kudi.ai (Nigeria) – chatbot using natural language processing to make make peer-to-peer mobile payments easier
  - Tala (Kenya) – uses a mobile app to assess and disburse loans to customers that do not have a credit history.



# AI Trends and Opportunities in other LMICs

- Real Estate
  - QuintoAndar (Brazil) uses machine learning to optimize pricing in property markets, leading to benefits for both the homeowners and tenants
- Natural Disaster Management
  - Netherlands Red Cross' 510 data initiative - used to improve resource management and prioritization of aid after Typhoon Haima in the Philippines in 2016
- Democratic Strengthening
  - Natural language processing (e.g., Centre for Artificial Intelligence Research (CAIR) in South Africa) – can enable greater participation in large diverse countries.



# AI Trends in LMICs – Obstacles

- Connectivity, infrastructure and other challenges may limit local AI entrepreneurship.
- Government engagement in the promotion of AI research and use is low.
- Networking events are important opportunities for knowledge sharing and collaboration.
- Women remain largely excluded from the AI field.
- Public data is in short supply.
- More needs to be done to develop and retain local AI talent.





# AI in LMICs - Risks

- As an emerging technology AI will coevolve with existing inequalities (Cozzens and Thakur 2014).
  - Impact of automation on jobs will be most severe in low-income countries (World Bank 2016) – may be even worse for women.
- Public Service Delivery – potential exclusion through the need to access/use AI to obtain govt. services
- Impact on Democracy – used for surveillance and punishment of certain groups, block content and fake media.
- Ignoring AI and Gender – gender must be part a core part of the discussion (and not a side topic).



# Starting the AI Policy Dialogue in LMICs

- AI and Governance
- Work towards a national strategy on AI
- Develop public sector expertise in AI
- Establish and implement codes of conduct for the responsible use of data and algorithms by the public sector.
- Support AI projects that focus on improving the delivery of public services, in particular those that target marginalized groups.
- Ensure the creation of mechanisms to oversee and work towards transparency, accountability, justification of decisions executed by AI.



# Starting the AI Policy Dialogue in LMICs

- AI Training and Research Development
- Ensure that training for development of AI technologies is accessible to all, including low-income groups.
- Invest in local research on AI, including in the STEM and social science/humanities fields.
  - Focus on reducing the gender gap in STEM and AI



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# Starting the AI Policy Dialogue in LMICs

- AI and the Demand for Data
- Promote access to free, open, and anonymized datasets to train systems.
- Encourage stakeholders to use open government data in AI as a way to improve data quality and ensure better, locally relevant datasets for AI.
- Promote the development of best practices and standards for AI design processes.
- Ensure proper data protection legislation, regulation, and standards are operational and abided by governments, companies, and civil society.



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# Starting the AI Policy Dialogue in LMICs

- AI and Innovation
- Fund local AI startups and incentivize local AI innovations that support national development goals.
- Support AI development to address employment.
- Ensure greater assessment of and investment in AI in the public sector (this could also help to improve how AI facilitates public sector accountability and efficiency.)



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Thank You!

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