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Rwanda

National AI Strategy

Rwanda, with Vision 2050, aspires to increase the quality of life and develop modern infrastructure ⁷²⁷ by strengthening capacity, service delivery and accountability of public institutions; increasing citizens' participation and engagement in development; and strengthening justice and rule of law. National Strategy for Transformation (NST1) is the vehicle for achieving Vision 2050.⁷²⁸ The government pledges to establish legal frameworks that spur economic development and instill fairness, transparency and accountability across institutions.⁷²⁹ The Emerging Technologies Strategy and Action Plan aims to position Rwanda as an emerging technology testbed, solution and export hub; propel the social and economic application of new technologies; prepare the foundations for new technologies and protect citizens and institutions from the negative consequences.⁷³⁰

The Government of Rwanda is developing a national AI strategy to equip government agencies and other stakeholders in the country to empower AI developers, citizens and users, and support the beneficial and ethical adoption of AI.⁷³¹ The government has engaged The Future Society to support the development of Rwanda's national artificial intelligence strategy, along with AI ethical guidelines, and a practical implementation

⁷²⁷ Republic of Rwanda, *Vision 2050* (2015)

http://www.minecofin.gov.rw/fileadmin/templates/documents/NDPR/Vision_2050/Vision_2050_-Full_Document.pdf

⁷²⁸ Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

http://www.minecofin.gov.rw/fileadmin/user_upload/MINECOFIN_Documents/NST_A5_booklet_final_2.04.19_WEB.pdfhttp://www.minecofin.gov.rw/fileadmin/user_upload/MINECOFIN_Documents/NST_A5_booklet_final_2.04.19_WEB.pdf

⁷²⁹ Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

⁷³⁰ Lasry, F. *Transforming Rwanda into a living Laboratory of Emerging Technologies: MINICT and DigiCenter develop National Emerging Technology Strategy and Action Plan*. Digital Transformation Center Kigali (June 15, 2020)

<https://digidcenter.rw/transforming-rwanda-into-a-living-laboratory-of-emerging-technologies/>

⁷³¹ UNICEF, *Policy Guidance on AI for Children: Pilot testing and case studies* (02 November 2020) <https://www.unicef.org/globalinsight/stories/policy-guidance-ai-children-pilot-testing-and-case-studies>

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strategy fit for the local context.⁷³² For implementation, GIZ FAIR Forward is tapped. “FAIR Forward – Artificial Intelligence for All” is a global initiative of German Development Cooperation, working together with Rwanda and four other countries to lay the foundations for developing local AI, to strengthen local skills and knowledge in AI; remove barriers of entry to developing AI and to develop AI policy frameworks on ethical AI, data protection and privacy.⁷³³ FAIR Forward advocates for ethical AI that is rooted in human rights, international norms such as accountability, transparency of decision-making and privacy, and draws on European experiences such as the EU General Data Protection Regulation (GDPR).

AI System for Identity Management

Rwanda used biometric identification for its census in 2007 to unify all identity information under a single authority, the National Identification Agency (NIDA), and a unique National Identity Number (NIN). This number is now used for health, education, telecom, banking, electoral lists, social protection programs and border crossings.⁷³⁴ It also proposed to create a country-wide DNA database to crack down on crime, raising concerns that the data could be misused by the government and violate international human rights laws.⁷³⁵ In a country that has bitter memories of genocide along ethnic identity lines, the right to data privacy becomes a crucial issue. National social protection program, Ubudehe, database, was created in 2001⁷³⁶ to classify wealth and identify the poorest households using community assessments. The database is interlinked with the national ID

732 *The Future Society, The Development of Rwanda’s National Artificial Intelligence Policy*

(Aug. 31, 2020) <https://thefuturesociety.org/2020/08/31/development-of-rwandas-national-artificial-intelligence-policy/>

733 Toolkit Digitalisierung , *FAIR Forward – Artificial Intelligence for All*, <https://toolkit-digitalisierung.de/en/fair-forward/>

734 ID4Africa, *Rwanda National ID Strategy*, https://www.id4africa.com/2019_event/presentations/PS1/5-Josephine-Mukesh-NIDA-Rwanda.pdf

735 International Association of Privacy Professionals, *Rwanda announces plans for countrywide DNA database* (Mar. 26, 2019) <https://iapp.org/news/a/rwanda-announced-plans-for-country-wide-dna-database/>

736 Republic of Rwanda Ministry of Health & World Health Organization, *Rwanda's Performance in Addressing Social Determinants of Health and Intersectoral Action* (2018) https://www.afro.who.int/sites/default/files/2018-03/Rwanda_s_Performance_in_Addressing_Social_Determinants_of_Health_and%20intersectoral%20action%20final%20Report.pdf

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number. The lack of transparency on who makes the wealth determination and how this impacts an individual's access to opportunities and resources and the extent of stigmatization remains questionable.

Smart Cities

Established in 2000 and revised in 2012, the aim of Rwanda Vision 2020 was to “transform Rwanda from an agrarian economy to a knowledge-based society by 2020.” Under this vision, Smart Rwanda Master Plan had three goals: economic transformation, job creation and accountable governance. In 2015, Rwanda adopted a National Urbanization Policy to demonstrate how urban development can drive economic transformation. One of the focus is to “promote quality of life, mitigation of disaster risks, social inclusion and cultural preservation” through “digital service points for rural settlements, smart urban agriculture projects, sensor-based environmental data, smart and green building labs.”⁷³⁷ The policy requires public engagement and open data as building blocks. The Rwanda smart city model is centered around 3 main pillars, 9 strategic building blocks and 27 action initiatives. The three pillars are smart governance and planning; smart and efficient services and utilities; and localized innovation for social and economic development.

Kigali Innovation City (KIC) is the government's flagship program to create a hi-tech ecosystem, modelling itself on the southeast Asian city-state of Singapore. The City of Innovation is to be built as part of Africa50. It is a 62-hectare development located in Kigali's special economic zone (SEZ). Main goal is to create an innovative business hub in the heart of Africa that will include four first-rate universities, innovative agriculture, healthcare, technology, financial services, biotech firms and both commercial and residential space.⁷³⁸

The Smart City Masterplan was developed in 2017, with participation of various stakeholders in Rwanda, including regulatory bodies, local authorities, academia, civil society and the private sector. The

737 UN Habitat, *Smart City Rwanda Master Plan*, https://unhabitat.org/sites/default/files/documents/2019-05/rwanda_smart_city-master_plan.pdf

738 Thelwell, K. *Big Plans for Rwandan Infrastructure*, The Borgen Project (Oct. 6, 2019) <https://borgenproject.org/tag/kigali-innovation-city/>

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development was aligned with the Smart Africa Alliance Smart Sustainable Cities Blueprint for Africa.⁷³⁹

Drone Regulation

Following a successful partnership with a startup, *Zipline*, to deliver blood, vaccines and other medical supplies to rural hospitals in Rwanda, the country decided to regulate the use of drones. It entered into partnership with World Economic Forum to draft a framework for governing drones at scale and foster an ecosystem of unmanned aircraft systems. The government created a performance-based regulation focused on safety standards and is the first country in the world to implement it for all drones.⁷⁴⁰ This partnership also resulted in The Advanced Drone Operations Toolkit which provides a modular approach for governments to enable societally important and safe drone projects.⁷⁴¹ The country is now looking to use these technologies to promote agricultural resilience and food security in Rwanda. It has not called for a prohibition on fully autonomous weapons.⁷⁴²

Public Participation

Ongoing policy development to cater for AI is being supervised by the Ministry of ICT and Innovation, in partnership with Rwanda Utilities and Regulatory Authority, the Rwanda Information Society Authority, and all relevant stakeholders from the public and private sectors and civil society.⁷⁴³ The partnership strategy with The Future Society for development of national AI strategy will shape how much public and civic participation will be incorporated to the process.

739 UN Habitat, *Smart City Rwanda Master Plan*

740 Russo A., Wolf H., *What the world can learn from Rwanda's approach to drones*, World Economic Forum (Jan. 16, 2019) <https://www.weforum.org/agenda/2019/01/what-the-world-can-learn-from-rwandas-approach-to-drones/>

741 World Economic Forum, *Advanced Drone Operations Toolkit: Accelerating the Drone Revolution* (Feb. 26, 2019) <https://www.weforum.org/reports/advanced-drone-operations-toolkit-accelerating-the-drone-revolution>

742 The Campaign to Stop Killer Robots, *Country Views on Killer Robots* (Nov. 13, 2018) https://www.stopkillerrobots.org/wp-content/uploads/2018/11/KRC_CountryViews13Nov2018.pdf

743 Habumuremyi, E. *AI eyed to transform health care in Rwanda*, Global Information Society Watch, <https://www.giswatch.org/node/6186>

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Fundamental Rights and OECD AI Principles

Rwanda is not a signatory to OECD AI Principles. While the nation does not have an established AI strategy yet, the engagement of The Future Society and GIZ FAIR Forward to help develop it, as well as its close alignment with GDPR is a positive sign for future direction.

After the genocide of 1994, Rwanda had to rebuild its infrastructure and relations from ground up. A unity and reconciliation process was followed by a combination of traditional systems of justice and international tribunals.⁷⁴⁴ The National Commission for Human Rights was created in 1999 as an independent institution responsible for the promotion and protection of human rights in Rwanda.⁷⁴⁵ In 2017 Rwanda withdrew from Protocol to the African Charter on Human and Peoples' Rights which allows individuals and NGOs to bring cases directly to the African Court on Human and Peoples' Rights came into effect.⁷⁴⁶ The European Union concluded in its 2018 human rights report that “area with the most significant restrictions of human rights were the politically related rights and freedoms such as the freedom of expression/freedom of media, freedom of association and freedom of assembly.”⁷⁴⁷ Ahead of the 2021 UN Universal Periodic Review of Rwanda, the government announced National Action Plan for Human Rights (NHRAP) 2017-2020, formulated through a participatory process. This the first of its kind in Rwanda and builds on extensive work by Rwandan government to create an inclusive society where all are valued and have equal opportunity. The government commits that Universal Declaration of Human Rights should guide all future programs and policies in all sectors and in all phases of the programming process including monitoring and evaluation.

744 Nkusi, A. *The Rwandan Miracle*, UNICEF, <https://en.unesco.org/courier/2019-2/rwandan-miracle>

745 Republic of Rwanda Ministry of Justice, *The National Human Rights Action Plan of Rwanda 2017-2020*
https://minijust.gov.rw/fileadmin/Documents/MoJ_Document/NHRAP_FINAL_version_for_cabinet-1.pdf

746 Amnesty International, *Rwanda: More progress needed on human rights commitments. Amnesty International submission for the UN Universal Periodic Review – 37th Session of the UPR Working Group, January-February 2021 (Aug. 2020)*,
<https://www.amnesty.org/download/Documents/AFR4728582020ENGLISH.PDF>

747 European Union, *Annual Report on Human Rights and Democracy in the World 2018 – Rwanda* (May 21, 2019) https://eeas.europa.eu/delegations/rwanda/62839/eu-annual-report-human-rights-and-democracy-world-2018-rwanda_en

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The Rwandan judiciary lacks independence from the executive. Top judicial officials are appointed by the president and confirmed by the Senate⁷⁴⁸ dominated by governing party. In addition, the 2013 law allows for security organs to record or listen to communications both offline and online, and without necessarily facilitating through a service provider, if it is done in the interest of national security.⁷⁴⁹ The regulations require mandatory SIM card registration and a limit of three cards per national ID per operators. Service providers are required to maintain databases and share information with law enforcement if necessary.

Data Protection

In 2019 Rwanda ratified the African Union Convention on Cyber Security and Personal Data Protection.⁷⁵⁰ In October 2020, the Cabinet approved the Data Protection and Privacy Law, however the law is not yet in force.⁷⁵¹ Following the GDPR, the Privacy Law seeks to safeguard fundamental rights to privacy by regulating the processing of data and providing the individual with rights over their data.⁷⁵² The law establishes systems of accountability and clear obligations for those who control the processing of the personal data. According to One Trust, “The bill is relatively comprehensive and would introduce obligations related to data subject rights, data processing notifications, pseudonymisation, sensitive data, data transfers, and data breach notifications.”⁷⁵³

748 Freedom House, *Freedom in the World 2020*,

<https://freedomhouse.org/country/rwanda/freedom-world/2020>

749 Republic of Rwanda, *N° 60/2013 of 22/08/2013 Law regulating the interception of communications*. Official Gazette n° 41 of 14/10/2013

https://rema.gov.rw/rema_doc/Laws/Itegeko%20rishya%20rya%20REMA.pdf

750 Daniel Sabiiti, *Rwanda Ratifies Malabo Convention On Personal Data Protection*, KT Press (July 25, 2019), <https://www.ktpress.rw/2019/07/rwanda-ratifies-malabo-convention-on-personal-data-protection/>

751 Republic of Rwanda, Office of the Prime Minister, *Statement on Cabinet Decisions of 27 October 2020*,

https://www.primature.gov.rw/index.php?id=131&tx_news_pi1%5Bnews%5D=933&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail&cHash=7a012c144e6b2eb6d384a0b1f153c26

752 Julius Bizimungu, *Rwanda moves to tighten data protection, privacy*, the New Times (Nov. 6, 2020), <https://www.newtimes.co.rw/news/rwanda-moves-tighten-data-protection-privacy>

753 OneTrust DataGuidance, *Rwanda* (Oct. 29, 2020),

<https://www.dataguidance.com/jurisdiction/rwanda>

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Algorithmic Transparency

Government provides open datasets⁷⁵⁴ and government services.⁷⁵⁵ Under NST1, government targets to ensure 100% Government services are delivered online by 2024.⁷⁵⁶ However the ability in practice to obtain information about state operations remains questionable.

Evaluation

Rwanda's national strategy, including Vision 2050 and FAIR Forward, aligns with the OECD/G20 AI Principles and encourages public participation in future AI decisions. Rwanda has moved toward stronger standards for data protection but has not yet established an independent agency to ensure data protection or to oversee AI deployment. The Smart City initiative in Kigali offers enormous promise, but also must be carefully monitored to ensure that a system of mass surveillance does not take place. The pioneering work on drone regulation needs to be coupled with a stand against lethal autonomous weapons.

754 Rwanda Data Portal [dhttps://rwanda.opendataforafrica.org/](https://rwanda.opendataforafrica.org/)

755 Irembo.gov https://irembo.gov.rw/home/citizen/all_services

756 Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*