



Rwanda

Annexure 1: List of interventions within IFs

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Chart 38: Project data file

The data series within IFs comes from a range of well-known sources such as the World Bank, the International Monetary Fund (IMF), World Health Organization (WHO) and various United Nations (UN) bodies like the Food and Agriculture Organization (FAO) and United Nations Population Fund (UNPF), etc. These organisations collect and standardise data which is essential for cross-country comparisons.

Name	Description	Country or group	Adjustments within IFs 7.84	Remarks
Governance and Stability scenario				
democm	Democracy multiplier	Rwanda	Interpolate from 1 to 1.5 over 10 years between 2024 and 2033.	Historically, Burkina Faso improved its democracy by 60% between 2008 and 2018. In the Governance and Stability scenario, democracy in Rwanda improves by 55.6% between 2024 and 2033.
econfreem	Economic freedom (1–10)	Rwanda	Interpolate from 1 to 1.2 in 10 years.	Rwanda improved its score by about 23% between 2000 and 2010. Average score

				for Rwanda increases by about 23.1% between 2024 and 2033.
gemm Gender	Empowerment (0–1)	Rwanda	Interpolate from 1 to 1.3 over 10 years.	Between 1995 and 2009, gender empowerment improved by 126% in Ethiopia. Between 2024 and 2033, the intervention improves gender empowerment by 31.8%, above the average of low-income African countries.
govcorruptm	Government corruption multiplier (1–10)	Rwanda	Interpolate from 1 to 1.4 over 10 years.	Tanzania improved its transparency by 58% between 1998 and 2008. The intervention improves transparency in Rwanda by about 40.9% between 2024 and 2033.
goveffectm	Government effectiveness multiplier (0–5)	Rwanda	Interpolate from 1 to 1.4 over 10 years.	Historically, Rwanda improved its government effectiveness by 54% from 2005 to 2015. The intervention increases Rwanda's score by 47.2% between 2024 and 2033.
govriskm	Government security risk multiplier (0–1)	Rwanda	Interpolate from 1 to 0.90 over 10 years from 2024 to 2033.	IFs initialise government risk from 2017. Improved government security is a precondition for sustainable

				development. The intervention improves government security in Rwanda by 14.9% between 2024 and 2033, above the low-income Africa average.
sfintlwaradd	State failure/internal war, addition – probability (0–1)	Rwanda	Interpolate from 0 to 0.1 over 10 years from 2024 to 2033.	Between 1990 and 2000, Rwanda reduced the probability of state failure by 100%. Uganda was able to reduce it by 100% between 2006 and 2016. Rwanda is already performing well on this index above the low-income Africa average.
svmulm	Reduce societal violence (conflict and terror)	Rwanda	Interpolate from 1 to 0.9 over 10 years.	Long-term peace and security are necessary for Rwanda's inclusive and sustainable development. Rwanda was able to reduce total death per 1000 people from societal violence by 91% between 1995 and 2005.
Demographics and Health scenario				
contrusm	Contraception use multiplier	Rwanda	Interpolate from 1 to 1.05 over 10 years.	The intervention increases contraception use by 17.6% between 2024 and 2033 — slightly above Seychelles.

watsafem (piped water)	Increase population with access to piped water	Rwanda	Interpolate from 1 to 1.5 over 10 years from 2024 to 2033.	Between 2010 and 2020, Ethiopia increased its population with access to piped water by 93%, and DR Congo by nearly 70%. The intervention improves access to piped water by 53.7% between 2024 and 2033 (from 55.7% to 82.2%).
sanitationm (improved)	Increase population with access to improved sanitation	Rwanda	No intervention. Current Path reaches 100% by 2043.	Mali improved population with access to improved sanitation by 87% between 2000 and 2010.
matmortatiom	Maternal mortality ratio multiplier	Rwanda	Interpolate from 1 to 0.2 between 2024 and 2033.	Between 2000 and 2010, Rwanda reduced its maternal mortality rate by over 200%. The intervention reduces the maternal mortality rate in Rwanda by 110% between 2024 and 2033. But this will still be higher than in Rwanda.
hlmortcdchldm	Reduces Mortality for children under five	Rwanda	Interpolate from 1 to 0.6 over 10 years.	Between 2000 and 2010, Rwanda reduced the under-five mortality rates by over 200%. The intervention will reduce under-five mortality in Rwanda by 130% between 2024 and 2033.

hlmortm (AIDS)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.75 between 2024 and 2033.	Burkina Faso reduced death from AIDS by 66% between 2004 and 2014. The Demographics and Health scenario will reduce death from AIDS in Rwanda by 110% between 2024 and 2033.
hlmortm (diarrhea)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.8 over 10 years.	In the past, Uganda was able to reduce mortality from diarrhoea by 42% between 1998 and 2008. The intervention will reduce death in Rwanda by 80.3% between 2024 and 2033.
hlmortm (malaria)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.7 over 10 years.	Between 2007 and 2017, Guinea was able to reduce mortality from malaria by 72%. The intervention will reduce death in Rwanda by 108% between 2024 and 2033, lower than in DR Congo and Burkina Faso.
hlmortm (respinfection)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.8 over 10 years.	Between 2010 and 2020, Malawi reduced death from respiratory infection by 40%, and the intervention is poised to decrease death in Rwanda by 56.8% between 2024 and 2033.

hlmortm (diabetes)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.5 over 10 years.	Rwanda reduced death from diabetes by 50% between 1992 and 2002. This intervention reduces diabetes by 30% between 2024 to 2033.
hlmortm (OthCommumDis)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.8.	Between 2007 and 2017, Ethiopia reduced deaths from other communicable diseases by about 40%. The intervention will reduce deaths from communicable diseases in Rwanda by 97% between 2024 and 2033.
hlmortm (OtherNonComm)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.6 over 10 years.	Malawi reduced death from other non-communicable diseases by 21% between 1994 and 2003. The intervention will reduce death by 38.1% between 2024 and 2033.
Reduces SAM prevalence (malnchpsamm)	Mortality multiplier	Rwanda	Interpolate from 1 to 0.8.	Between 2006 and 2014, severe acute malnutrition (SAM) prevalence declined by over 259% in Togo. In this intervention, SAM prevalence declined by 20% between 2024 and 2033.
Education scenario				

edseclowrvocadd	Lower secondary, vocational share, additive factor, decimal rate	Rwanda	Interpolate to 4.	Burkina Faso increased vocational training in lower secondary schools by 115% between 2009 and 2019. The intervention will push Rwanda above the average of low-income African countries but significantly below Liberia by 2043.
Edsecupprvocadd	Upper secondary, vocational share, additive factor, decimal rate	Rwanda	Interpolate to 6.	Coming from a low base of 2.6, Ethiopia increased vocational training share of upper secondary education from 21.56% to 59.20% between 2001 and 2011. The intervention will see Rwanda improve its upper secondary vocational training by 15.2% between 2024 and 2033, and by 2043 Uganda will be below Ethiopia.
edterscienshradd	Tertiary, Sci-Eng share of graduates, additive factor, decimal rate	Rwanda	Increase by 5% between 2024 and 2033.	Increase in science and engineering graduates is necessary for quality human capital for sustainable growth and development. The intervention pushes the science and engineering graduate share by 97%%, and by 2043 the share in Rwanda is almost on par with Sudan.

edpriintnm	Primary net intake rate multiplier (total)	Rwanda	No intervention. Current Path reaches 100%.	Niger has increased primary net intake by 54% between 2007 and 2017. Rwanda will attain 100% primary intake in 2022 before the intervention takes effect.
edprisum	Primary, survival rate, multiplier (total)	Rwanda	Interpolate from 1 to 1.3.	Malawi improved survival rate at primary level by 60% between 2004 and 2013. The intervention will push the survival rate in Rwanda by 40% between 2024 and 2033.
edseclowrtran	Lower secondary transition rate	Rwanda	Interpolate from 1 to 1.4.	Between 2000 and 2010, Niger improved by 45%. The intervention pushes Rwanda to 100% by 2029 from 85.6% in 2024. Mali will attain 100% much earlier in 2024.
edsecuprtran	Upper secondary transition rate	Rwanda	Interpolate from 1 to 1.4	Upper secondary transition will increase from 85.3% from 2024 to 100% by 2033, on par with DR Congo.
edseclowrgram	Lower, secondary, graduation rate, multiplier	Rwanda	Interpolate from 1 to 1.25.	The intervention pushes lower secondary graduation rate to 32.3% between 2024 and 2033. By 2043, the graduation rate in Rwanda will be above the

				low-income average but still below the level for Democratic Republic of Korea.
edsecupprgram	Upper secondary, graduation rate, multiplier (total)	Rwanda	Interpolate from 1 to 1.25.	This intervention pushes the upper secondary graduation rate by 40% between 2024 and 2033, but still below the rate for Democratic Republic of Korea by 2043.
edterintm	Tertiary, intake rate, multiplier, total	Rwanda	Interpolate from 1 to 1.2.	Madagascar improved its tertiary intake by 61% between 2007 and 2017. The intervention will see Rwanda improve its tertiary intake by 120% between 2024 to 2033 from the low base of 11.8% in 2024 to 26.1% in 2033.
edtergradm	Tertiary, graduation rate multiplier	Rwanda	Interpolate from 1 to 1.4.	Between 2007 and 2017, Madagascar improved graduation from tertiary education by 160%. Rwanda will see a 63.7% improvement in the tertiary graduation rate.
edqualpriallm	Quality, multiplier on primary (total)	Rwanda	Interpolate from 1 to 1.25.	Burkina Faso improved quality at primary level by 31% between 2008 and 2018. The intervention

				improves quality by 33.4% from 2024 to 2033.
edqualsecallm	Quality, multiplier on secondary (total)	Rwanda	Interpolate from 1 to 1.2.	The intervention increases the quality of secondary education by 18.3% between 2024 and 2033, above the average of low-income Africa.
Agriculture scenario				
ylm	Yields multiplier	Rwanda	Interpolate from 1 to 1.35.	Mali improved yields per hectare 100% between 2009 and 2019. The intervention will improve agricultural yield in Rwanda by 44%, and by 2043 yields will be slightly below Malawi.
landirareaactualm	Multiplier on land actually irrigated	Rwanda	Interpolate from 1 to 1.4.	The intervention improves land irrigated by 182% between 2024 and 2033 from a very low base.
landirareaequipm	Multiplier on land equipped for irrigation	Rwanda	Interpolate from 1 to 1.3.	Ethiopia improves its land equipped for irrigation significantly by 335% between 2024 and 2033. From a low base, this intervention improves land equipped for irrigation by 110% between 2024 to 2033 but below Ethiopia.

aglossprodm	Loss rate of agricultural production (crop)	Rwanda	Interpolate from 1 to 0.7.	The intervention reduces crop loss by 45% between 2024 and 2033. By 2043, Rwanda will reduce agricultural production loss lower than its peers in low-income Africa but almost equal to Eswatini.
aglosstransm	Loss rate of agriculture as moves from producer to consumer multiplier (crop)	Rwanda	Interpolate from 1 to 0.7.	The intervention reduces food waste by 27.6% between 2024 and 2033, and by 2043 Rwanda will reduce food waste lower than average low-income African peers but higher than Eswatini, Somalia, Eritrea and South Sudan.
clpcm	Per capita calorie demand multiplier (total)	Rwanda	Interpolate from 1 to 1.35.	Between 2009 and 2019, calories available in Sudan increased by 56%. The intervention will increase Rwanda's available calories by 39.7% between 2024 and 2033.
forestm	Forest protection multiplier	Rwanda	Interpolate from 1 to 1.01.	For the sustainability of agriculture.
Manufacturing/Transfers scenario This scenario consists of two sce files: manuf and grants				
govhhtrnwelm (unskilled)	Government to household welfare transfers	Rwanda	Interpolate from 1 to 1.1.	Transfers to the household are necessary to smoothen offset the

				negative redistributive effect of manufacturing on households. The intervention will push government household transfer by 56.3% from 2024 to 2033. By 2040, the Rwandan government will make transfers to the household larger than the average of its peers but lower than in Somalia.
hhtaxrm	Household tax rate multiplier, by skill level	Rwanda	<p>Unskilled labour: interpolate from 1 to 0.8.</p> <p>Skilled labour: interpolate from 1 to 1.2.</p>	In this intervention government tax revenue increases from taxing unskilled labour by 94.8% between 2024 and 2033 and tax revenue from skilled labour by 221% during the same period.
govbusregindm	Government regulation of business index multiplier	Rwanda	Interpolate from 1 to 0.60 over 10 years.	Private sector-led growth is supported by little government interference in the day-to-day operations of businesses. Reducing bureaucratic government regulation is necessary for promoting manufacturing in Rwanda. This intervention improves government

				regulatory quality by 5% from 2024 to 2033.
idsm	Investment in manufacturing sector	Rwanda	Interpolate from 1 to 1.25.	The intervention improves the manufacturing investment share of GDP by 12.2% in 2024 to 17.1% in 2033. By 2043, Rwanda's projected manufacturing share of GDP will equal 36% surpassing the average of its peers.
randdexpm	Increase research development activities (total)	Rwanda	Interpolate from 1 to 1.2.	The intervention improves the R&D share of GDP by 148% between 2024 and 2033 from a low base, and by 2040 R&D share GDP in Rwanda will be lower than Togo and DR Congo.
labparm	Total labour participation rate (male & female), female more aggressive	Rwanda	Male: Interpolate from 1 to 1.15.	Historically, both male and female labour participation rates have been equal in Rwanda. The intervention will push both male and female labour participation by 11.9% between 2024 and 2033.
Infrastructure and Leapfrogging scenario				
qem - Q (OthRenew)	Capital cost to output ratio in energy	Rwanda	Interpolate from 1 to 0.8.	Lower energy cost to output will enhance the production of

				more energy to fuel economic growth and development.
enpm (OthRenew)	Energy production multiplier for other renewables	Rwanda	Interpolate from 1 to 1.2.	The intervention increases other renewable energy production by 200% between 2024 and 2033 from a very low base.
infraelecacm (urban)	Electricity access multiplier urban	Rwanda	Interpolate from 1 to 1.1.	Burkina Faso improved urban electricity access by 45% between 2009 and 2019. The intervention improves urban electricity access by 12% between 2024 and 2033, reaching 100% in 2033. Ethiopia will reach 100% urban access by 2022.
infraelecacm (rural)	Electricity access multiplier rural	Rwanda	Interpolate from 1 to 1.4.	Between 2009 and 2019, Eritrea improved rural access to electricity by 99%. Rwanda also increased its rural access to electricity from 1.1% in 2011 to 38.2% in 2019. The intervention improves rural access by 103%, or 38.2 percentage points, between 2024 and 2033. By 2040, rural access will be on par with Eritrea.
ictbroadmobilm	ICT mobile broadband multiplier	Rwanda	Interpolate from 1 to 1.1.	From a low base, Uganda improved

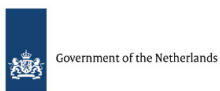
				mobile broadband subscription by 134.7% between 2010 and 2017. Rwanda has the highest mobile broadband subscriptions among its income peers. The intervention improves mobile broadband subscription by 31.9% between 2024 and 2033.
ictbroadcostm	ICT broadband multiplier on cost of adding a connection	Rwanda	Interpolate from 1 to 0.9.	A reduced cost of adding a connection improves connectivity to ICT broadband infrastructure. Rwanda will need more broadband connections to leverage the opportunities that digitalisation offers.
ictbroadm	ICT fixed broadband multiplier	Rwanda	Interpolate from 1 to 1.25.	Togo improved its connection by 283.5% between 2008 and 2018. From a very low base, the intervention improves fixed broadband subscriptions by 300% between 2024 and 2033. By 2043, the intervention pushed Rwanda on par with Somalia.
(Infraroadpavedpcntm)	Paved roads	Rwanda	Interpolate from 1 to 1.15.	Guinea Bissau increased paved

				road length from 9.4% in 1993 to 27% in 2003. The intervention improves paved road share of total roads by 93% between 2024 and 2033.
gdpinformshrm	Reduce informality	Rwanda	Interpolate from 1 to 0.8.	The intervention reduced informality by 31.2% (7 percentage points) between 2024 and 2033. However, the informal sector will still be above Sudan by 2043.
Free Trade scenario				
XSM	Export multiplier - Manufacturing	Rwanda	Interpolate from 1 to 1.3.	Manufacturing export value as a per cent of GDP improves by 114% between 2024 and 2033. By 2043, Rwanda's projected manufacturing export share of GDP will be higher than the average of low-income Africa constituting 15.6%.
XSM	Export multiplier – Agriculture	Rwanda	Interpolate from 1 to 1.2.	Agricultural export share of GDP declines by 204% between 2024 and 2033 reaching less than 1% of GDP by 2043.
XSM	Export multiplier – Services	Rwanda	Interpolate from 1 to 1.15	Services export in Rwanda increases by 45.4% between 2024 and 2033, and by

				2043 services export share will reach 15.9% of GDP.
XSM	Export multiplier – ICT Tech	Rwanda	Interpolate from 1 to 1.2.	Coming from a low base, the ICT export share will improve by 123% between 2024 and 2033, reaching 0.3% by 2043.
XSM	Export multiplier – Materials	Rwanda	Interpolate from 1 to 1.15.	The export share of material will improve by 93.8% between 2024 and 2033, reaching 13.7%.
mfpadd	Increase multifactor productivity	Rwanda	From 0 in 2023 to 0.010 in 2033, maintain.	Free trade unleashed productivity growth.
XSM	Export multiplier – Energy	Rwanda	Interpolate from 1 to 1.2.	The share of energy export in Rwanda a will improve by 140% between 2024 and 2033,
mtariffaxrm	Import tariff tax multiplier by country and sector	Rwanda	Interpolate from 1 to 0.8.	Lower import tariffs promote free trade between countries and boost growth and development.
External Financial Flows scenario				
xworkremitinm	Worker remittances multiplier (positive numbers are receipts)	Rwanda	Interpolate from 1 to 1.25.	Uganda increased its remittance share of GDP by 234% between 2009 and 2019. This intervention increases remittance is projected to

				increase by 63.6% between 2024 and 2033.
aidrecm	Aid (foreign) receipts multiplier	Rwanda	Interpolate from 1 to 1.2.	Liberia increased its aid share of GDP from 8.7% in 2000 to 97% in 2007. Between 2024 and 2033 the projected share of aid receipts in GDP for Rwanda is poised to decrease by 11.5% compared to the 29.5% in the Current Path.
xfdistockm	FDI, stocks of investment from abroad, multiplier	Rwanda	Interpolate from 1 to 1.2.	Togo improved its FDI receipt by 132% between 2010 and 2020. In the intervention, FDI inflow to Rwanda is projected to rise by 93.8% between 2024 and 2033 and from a low base, FDI stock will increase to 40.5% between 2024 to 2033.
xfdistoutm	FDI, stocks of outward investment, multiplier	Rwanda	Interpolate from 1 to 0.8.	As a proxy for capital flight, reducing outflow of FDI is paramount to building the domestic capital stock of Rwanda.
xportfoliom	Portfolio investment, stocks of investment from abroad, multiplier	Rwanda	Interpolate from 1 to 1.2.	Investment in financial assets in Uganda promotes the financial market development and its long-term growth.

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Mr Enoch Randy Aikins joined the AFI in May 2021. Before that, Enoch was a research and programmes officer at the Institute for Democratic Governance in Accra. He also worked as a research assistant (economic division) with the Institute for Statistical Social and Economic Research at the University of Ghana. Enoch's interests include African politics and governance, economic development, public sector reform, poverty and inequality. He has an MPhil in economics from the University of Ghana, Legon.

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