

Status of Land Statistics in Africa and an Economic Case for Institutionalizing their Measurement



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1. INTRODUCTION

Land is the foundation of Africa's economy and the livelihoods of its people. It sustains the agriculture that contributes about 15 per cent of the continent's gross domestic product and employs roughly six in ten working Africans; it holds the forests, soils and water on which food security and climate resilience depend; and, for most households, it is the single largest store of wealth. Governing this asset well requires measuring it well. A functional land-statistics system should answer four questions for policymakers: what the land surface looks like (land cover), how that surface is changing (land cover change), how productive it is (land productivity), and who holds rights to it (land tenure). Together these four indicators form a "statistical block", an integrated body of statistics that a country needs to manage land as both an economic and an environmental asset.

In most African countries this block is incomplete, and the gaps are not random: they cluster precisely where the stakes are highest. Only about one parcel of rural land in ten is formally registered. The continent's most widely used land-cover products are three to seven years out of date. Roughly two-thirds of the data used to track Africa's development are not produced by national statistical systems at all but estimated or modelled by international agencies. Land degradation, the slow erosion of the land's productive capacity, is accelerating faster in Africa than almost anywhere on earth. Yet, the indicator that measures it (SDG 15.3.1) is reported with long lags and uneven country coverage. A nation that cannot measure its land cannot govern it, and development slows in a continent that cannot harmonise those measurements.

The missing-data problem and irreconcilability of land statistics in Africa raise concerns about the sustainability and inclusiveness of the continent's development efforts. Different agencies measure land using different definitions, classifications, satellite products and reference years. As this brief shows, two official datasets from the same statistical agency disagree on whether Africa is gaining or losing trees; four widely used satellite products differ by some 300 million hectares, an area larger than India, in their estimate of how much of Africa is tree-covered. A policymaker who asks one simple question, "how much forest has Africa lost?", receives several different and irreconcilable answers depending on which dataset is consulted.

The gap, therefore, is not only one of missing numbers but of missing coherence. Africa lacks a harmonised land-statistics system in which land cover, land cover change, land productivity, and land tenure are measured using common definitions, common classifications, and a common reference period, and can be combined to support decisions. Land, the continent's largest asset, is consequently governed substantially in the dark: investment is mispriced, degradation is under-managed, tenure disputes go unrecorded, and the economic value of land cannot be brought onto the national balance sheet.

This brief assesses the recency and comparability of the four core land indicators for all 54 African countries from 2010 onward, benchmarks Africa against the rest of the world, and, to make the stakes concrete, presents an illustrative scenario to unlock GDP through the institutionalisation of land measurement in Africa.

To provide context for the findings and the illustrative scenario for unlocking GDP, the next three sections of this brief present an overview and frameworks on land statistics, the definition of concepts and data sources, and measurement indicators. The last section of the brief provides a conclusion.

2. OVERVIEW AND FRAMEWORKS ON LAND STATISTICS

2.1. Global Frameworks Shaping African Land Statistics

African land statistics do not operate in a vacuum. They are shaped by, and expected to report into, a set of global frameworks that establish measurement standards, reporting requirements, and methodological guidance.

Table 1: Frameworks Shaping African Land Statistics

Framework	Custodian	Relevant Land Domains	African Uptake
System of Environmental-Economic Accounting (SEEA)	UN Statistics Division	Land cover, Land use, Land condition	Pilot implementations in ~15 countries; mainstream adoption limited
SDG Monitoring Framework	IAEG-SDGs	All four domains (15.1, 15.2, 15.3, 5.a.1, 2.4)	Reporting mandatory; data gaps mean most countries use global modelled data.
Global Core Indicators (GCI)	UN-GGIM	Land cover, Geospatial infrastructure	Adoption varies; technical capacity constraints limit implementation
UNCCD Good Practice Guidance	UNCCD Secretariat	Land cover change, Land productivity, Soil organic carbon	Widely referenced; country-level implementation patchy
FAO Land Cover Classification System (LCCS)	FAO	Land cover	Recommended standard; not universally adopted at country level
Voluntary Guidelines on Land Tenure (VGGT)	FAO / CFS	Land tenure	Adopted by AU; implementation progress monitored informally
African Union Land Governance Framework (LGAF)	African Union	Land tenure, Land administration	Country-level LGAF assessments conducted in ~30 countries

2.2. Land Indicators as a Statistical Block

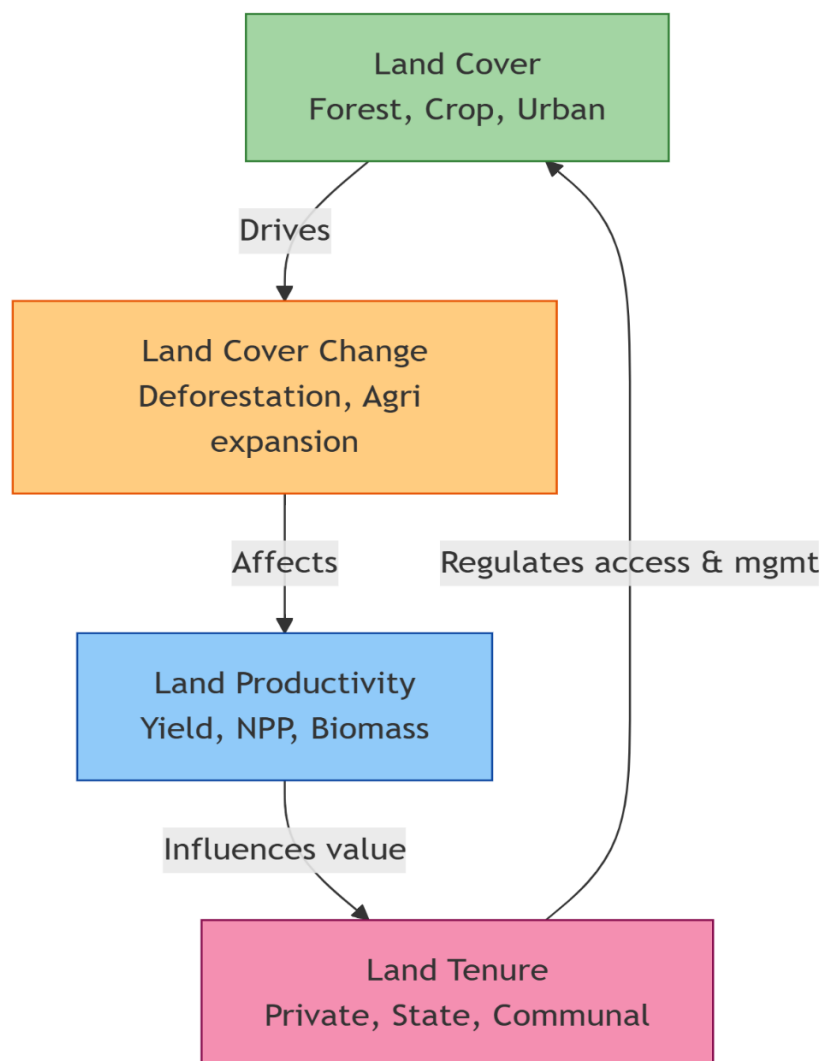
A statistical block is a coherent, integrated body of statistics that together address a specific policy domain or development challenge. For land, this block comprises four interconnected domains, each answering a distinct but related policy question:

Land Cover <i>What does the surface look like?</i>	Land Cover Change <i>How is the surface changing?</i>	Land Tenure <i>Who holds rights to the land?</i>	Land Productivity <i>How much does the land produce?</i>
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These four domains are not independent. A change in land cover, say, the encroachment of dryland on previously vegetated areas, simultaneously affects land productivity, has implications for land tenure (as degraded land may be abandoned or contested), and itself must be tracked through land cover change data.

They are facets of the same reality, and effective land governance requires all four simultaneously. The statistical block framework insists that we think about this integration from the outset, not as an afterthought.

Figure 1: Interlinkages between the four land indicators



Source: ECA's Construct, 2026

3. DEFINITION OF CONCEPTS AND DATA SOURCES

3.1. Definition of Concepts

3.1.1. Land cover

Land cover refers to the physical and biological characteristics of the Earth's surface, what is physically present, such as forest, grassland, cropland, wetland, water body, bare soil, and urban settlement. It answers the question of what the land surface looks like right now

3.1.2. Land Cover Changes

Land cover change tracks transitions between land cover classes over time, for instance, from forest to cropland, from grassland to urban settlement, from wetland to degraded bare soil. It answers the question of the rate and direction of land surface transformation.

3.1.3. Land Tenure

Land tenure refers to the social, legal, and institutional arrangements through which individuals and groups acquire, maintain, and transfer rights to land. It answers who holds what rights to the land, on what basis, for how long, and with what security. This is conceptually the richest of the four domains and empirically the most difficult to measure.

3.1.4. Land Productivity

Land productivity measures the biological output of land relative to its potential, typically expressed as crop yields (tonnes per hectare), vegetation productivity indices (Net Primary Production, NDVI trends), or agricultural value-added per unit area. It answers the question of how efficiently land produces the goods and services it can provide

3.2. Data Sources

The brief draws on the most authoritative open data available for each indicator. Land cover and land cover change are taken from the FAOSTAT Land Cover domain, which compiles four global satellite products: the ESA Climate Change Initiative (CCI_LC), MODIS, the Copernicus Global Land Service (CGLS) and ESA WorldCover; the CCI_LC series, which offers the longest continuous record, is used as the primary land-cover series. Land use (forest land, cropland and agricultural land) is taken from the FAOSTAT Land Use domain, based on country reporting and the FAO Global Forest Resources Assessment. Land tenure is assessed using LandMark's 2025 indicators of the legal security of community and indigenous land rights. Land productivity and degradation draw on World Bank cereal-yield data and the UNCCD / SDG 15.3.1 land-degradation indicator. The GDP scenario uses IMF and World Bank macroeconomic data and published estimates of land-related economic losses.

Coverage is the 54 African countries, with a reference period from 2010 to the most recent year available for each series. Data gaps are evaluated against five criteria: policy relevance, availability and country coverage, timeliness and recency, comparability and harmonization, and methodological and financial feasibility. The GDP scenario in Section 6 is an illustrative, assumption-based calculation, not a forecast; its full assumptions, formulas and a sensitivity analysis are provided in the accompanying Excel annex. To keep each chart uncluttered, data sources are not printed beneath the figures; all sources are consolidated in the References section and in the annex. All figures in this brief are reproducible from that annex.

4. MEASUREMENT OF INDICATORS

4.1. Land cover

Two broad methodological approaches dominate African land cover measurement. The first is remote sensing-based mapping, which uses satellite imagery from platforms including Sentinel-2, Landsat, MODIS, and increasingly Planet Labs to classify land surface characteristics at spatial resolutions ranging from 10 to 500 metres. The second is ground survey-based classification, in which trained enumerators apply standardized classification protocols to sample areas. In practice, most national systems use a combination, with remote sensing providing wall-to-wall coverage and ground surveys providing classification accuracy checks

4.2. Land Cover Changes

The standard approach for measuring land cover change detection involves comparing two or more temporally separated land cover maps using post-classification comparison or direct multi-date image analysis. Post-classification comparison applies a classification algorithm to each period independently, then computes transition matrices from the resulting maps. This approach is transparent and interpretable but compounds classification errors across time periods. For example, if each map has a 10 per cent error rate, the change map may have an error rate exceeding 20 per cent.

4.3. Land Tenure

The two primary instruments for measuring land tenure are administrative registration systems and household survey modules. Administrative systems have high coverage of formally registered land but miss the customary majority. Household surveys, including the World Bank's LSMS-ISA, the DHS, and NSO-administered agricultural censuses, can capture both formal and informal tenure arrangements but are conducted infrequently (typically every 5 to 10 years), are costly, and often lack the spatial referencing needed to link tenure data to land cover data.

4.4. Land Productivity

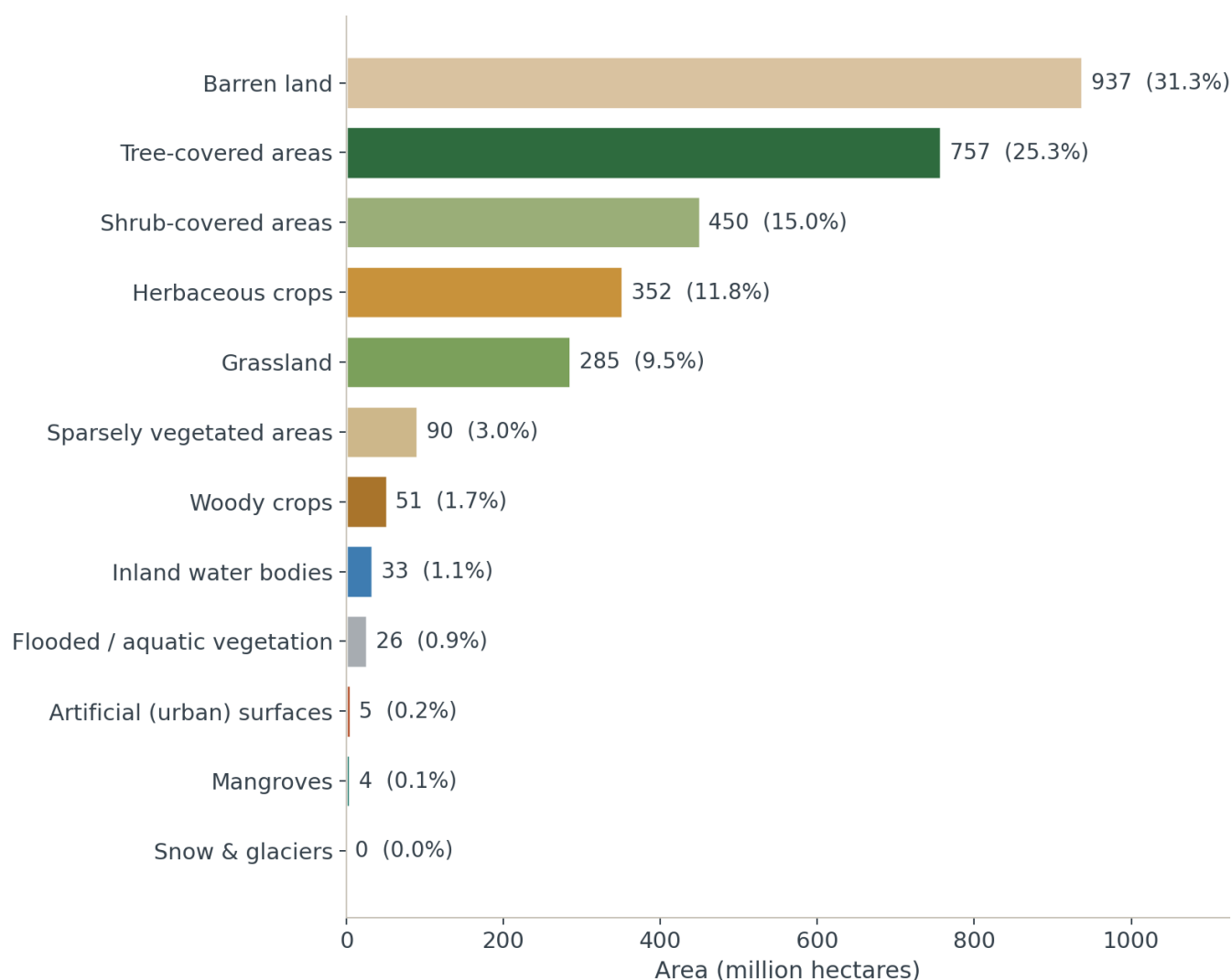
Three broad approaches are used in African countries. First, agricultural sample surveys conducted by NSOs or Ministries of Agriculture collect crop area and production data from sampled farm households, from which yield estimates are derived. This approach is the gold standard for national agricultural statistics but is expensive, requires trained enumerators, and is only conducted annually in fewer than half of African countries. Second, crop cut studies employ objective measurement of harvested area and produce from measured sub-plots, providing more accurate yield estimates than self-reported recall data but at higher cost and typically in smaller geographic areas. Third, remote sensing-based productivity estimation uses satellite-derived vegetation indices (NDVI, EVI, LAI) as proxies for primary productivity, supplemented in some systems by coupled crop models.

5. KEY FINDINGS

CHARACTERISTICS OF LAND STATISTICS IN AFRICA

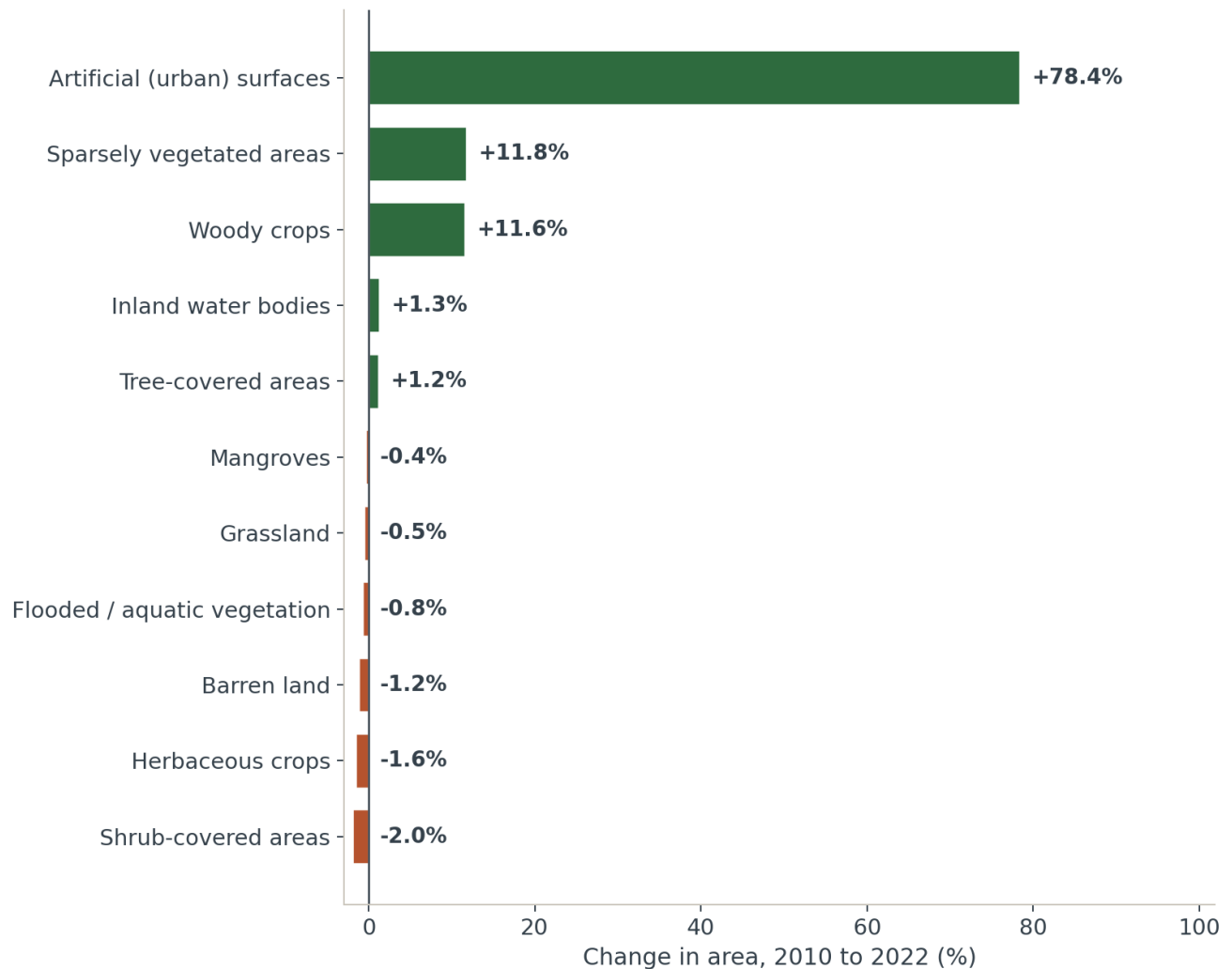
Drylands dominate Africa's land surface. Barren land (bare rock, sand and desert) is the single largest cover class at 937 million hectares, 31 per cent of the continent, while tree-covered areas account for just 25 per cent. Cropland of all types covers only about 403 million hectares, leaving a thin productive margin against which any loss of vegetation is significant.

Figure 2: Africa's Land Cover Composition, 2022



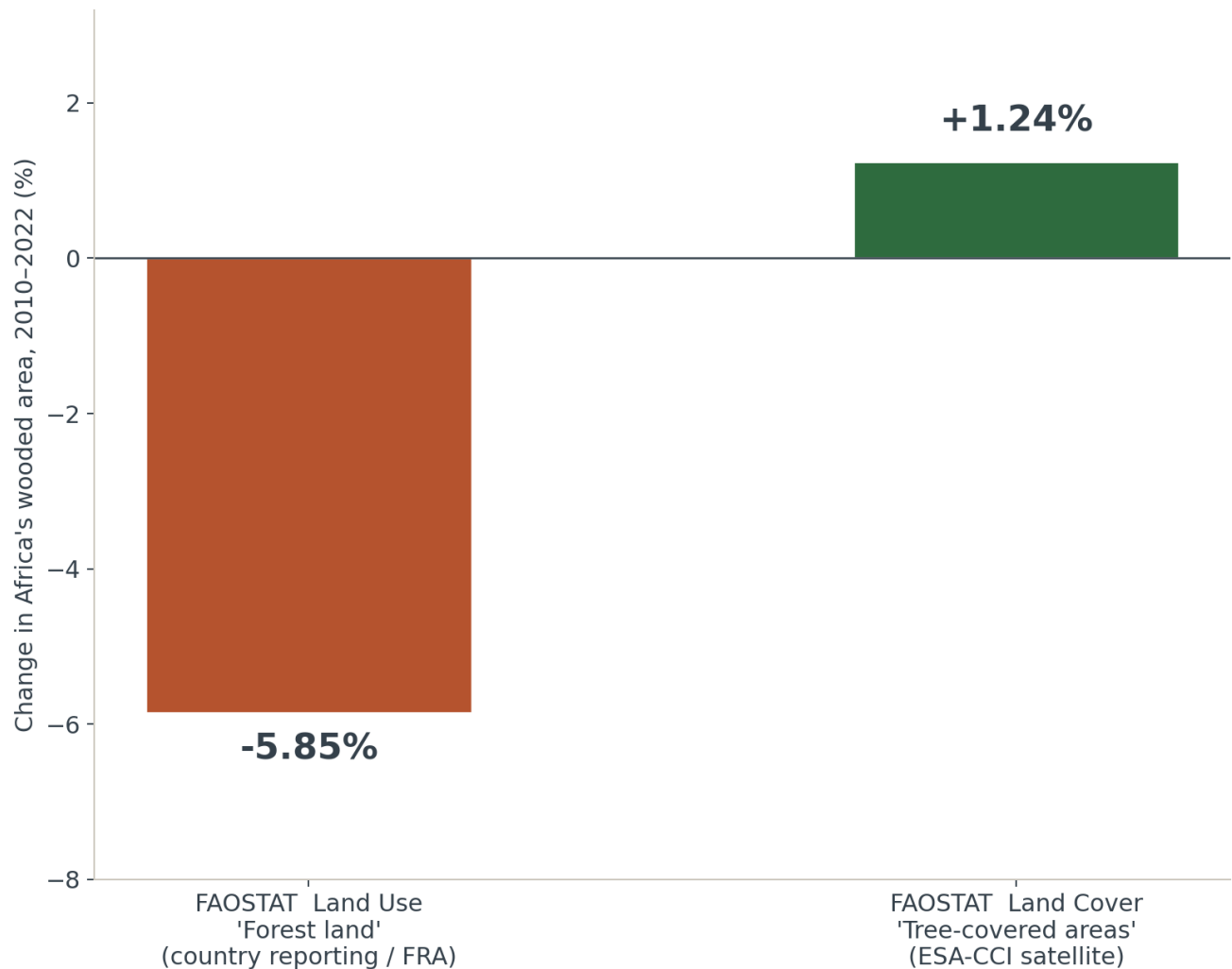
Between 2010 and 2022, artificial (built-up) surfaces expanded by 78 per cent, by far the fastest land-cover change in Africa, and a sign that the continent is urbanizing faster than it is being mapped. Woody crops and sparsely vegetated land each grew by about 12 per cent, while most natural cover classes recorded modest declines.

Figure 3: Land Cover Change in Africa, 2010–2022



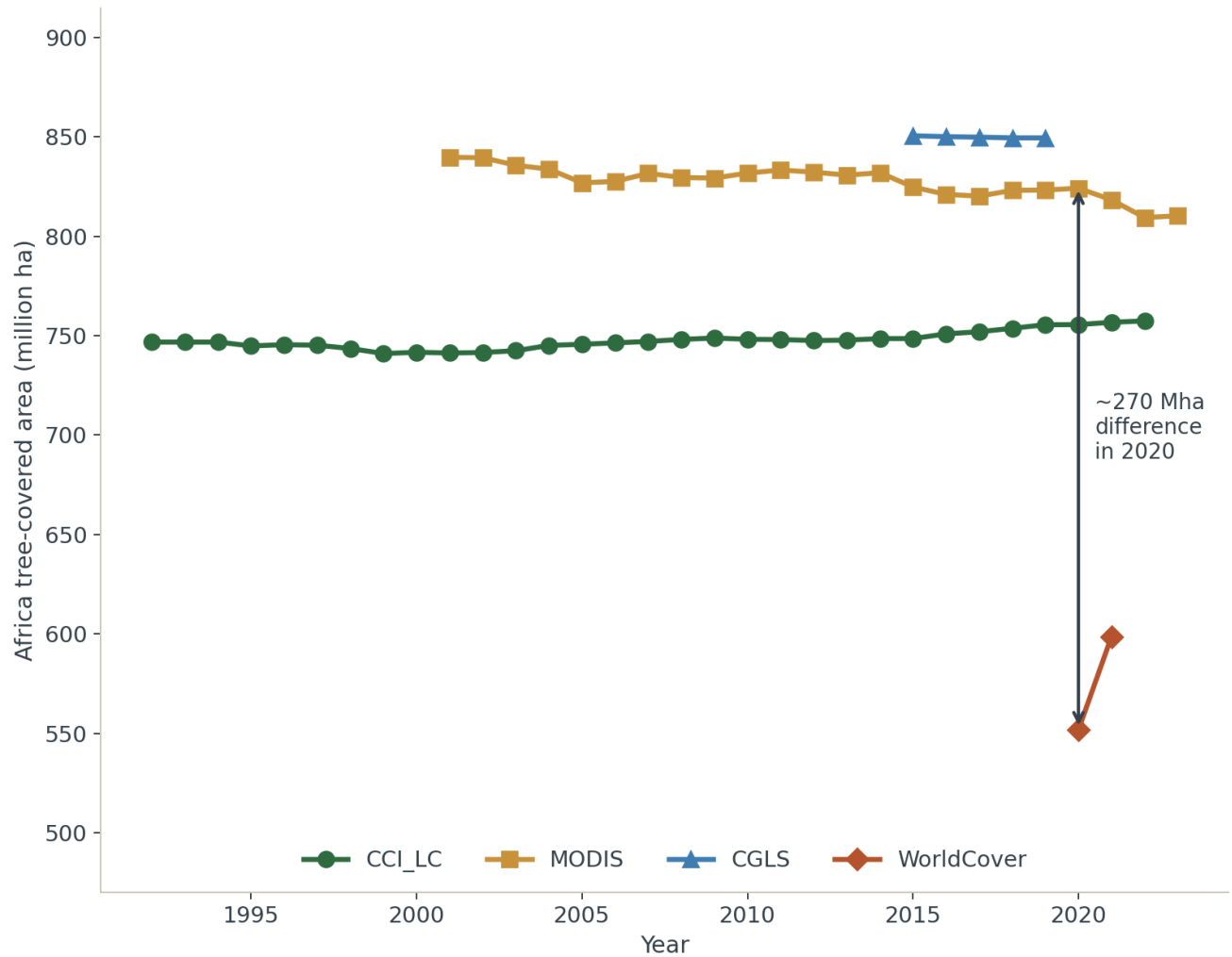
Two official FAOSTAT datasets disagree on the direction of change. The Land Use domain records that Africa's forest land shrank by 5.85 per cent between 2010 and 2022; the Land Cover domain, drawn from satellite imagery, records that tree-covered area grew by 1.24 per cent over the identical period: same continent, same statistical agency, yet opposite signs.

Figure 4: Conflicting Signals in FAOSTAT Land Use vs Land Cover, 2010–2022



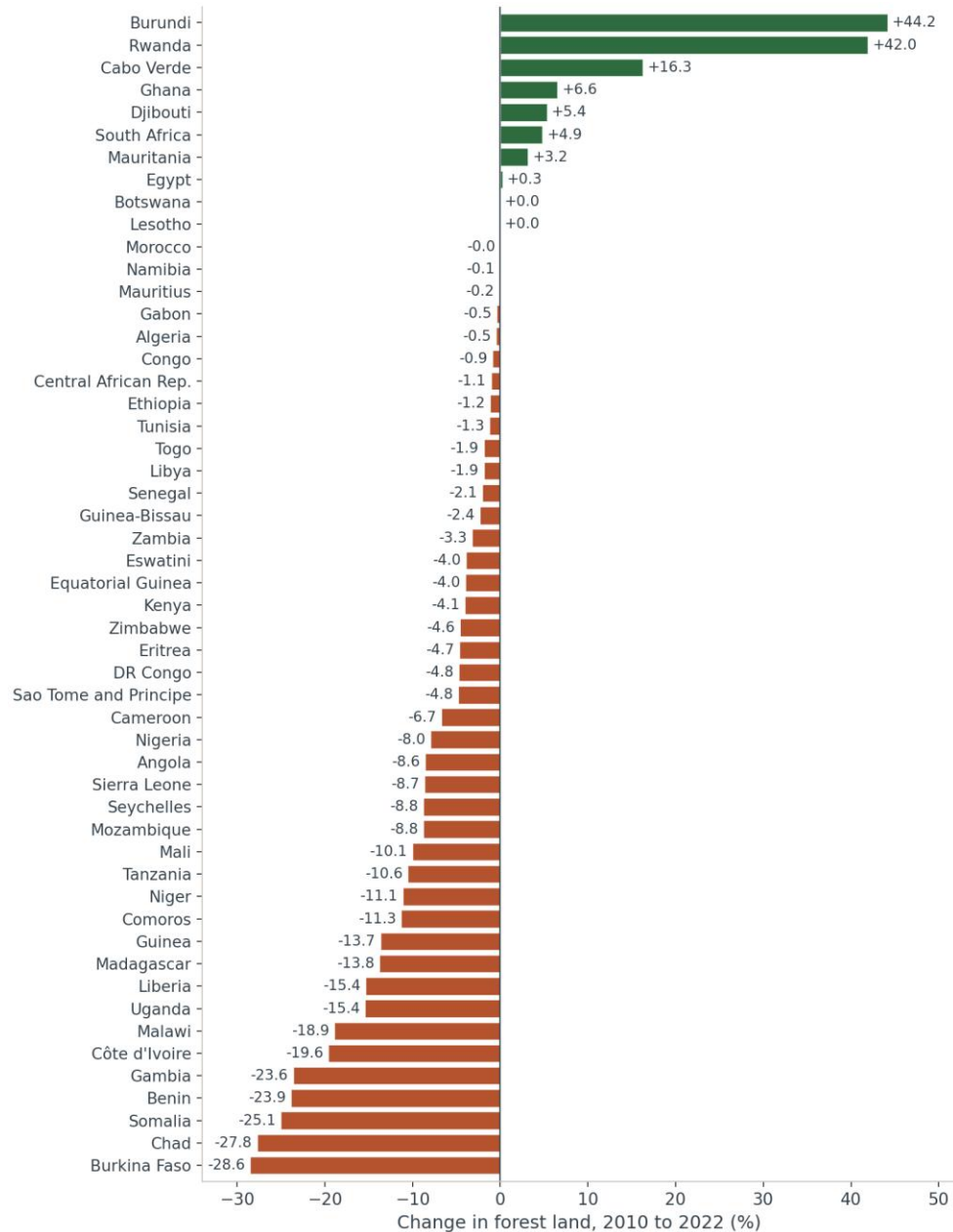
Four global satellite products differ by roughly 270 million hectares in their estimate of Africa's tree-covered area for 2020 alone, a spread larger than the land area of any single African country. Across the full record the gap approaches 300 million hectares, making a single agreed figure impossible without explicit reconciliation.

Figure 5: Estimates of Africa's Tree-Covered Area, by Satellite Product



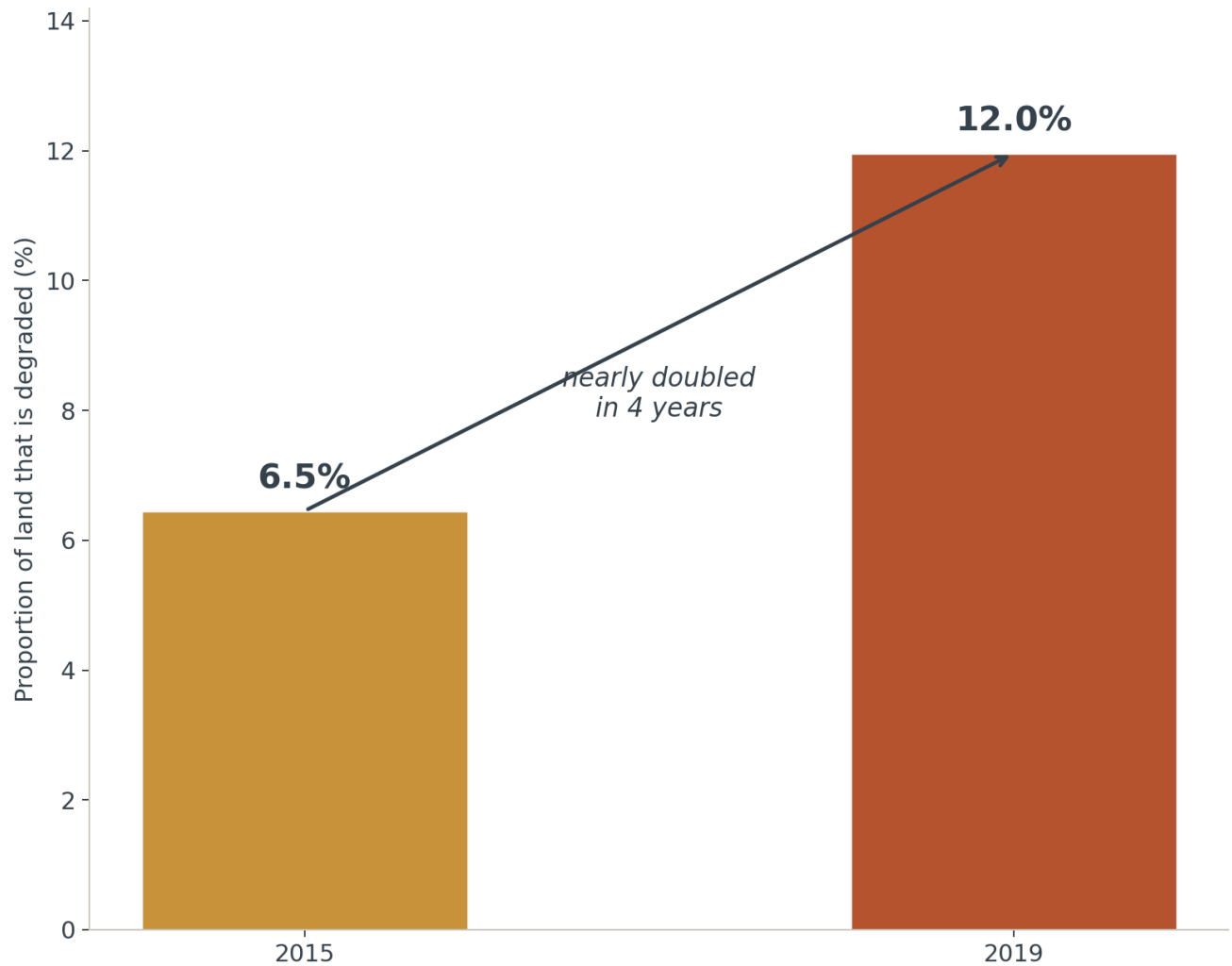
Forty-three (43) of the 52 African countries with a complete series lost forest land between 2010 and 2022. The steepest losses were in Burkina Faso (–29 per cent), Chad (–28 per cent) and Somalia (–25 per cent). Only Rwanda (+42 per cent) and Burundi (+44 per cent) substantially reversed the trend through active reforestation.

Figure 6: Forest Land Change by Country, 2010–2022



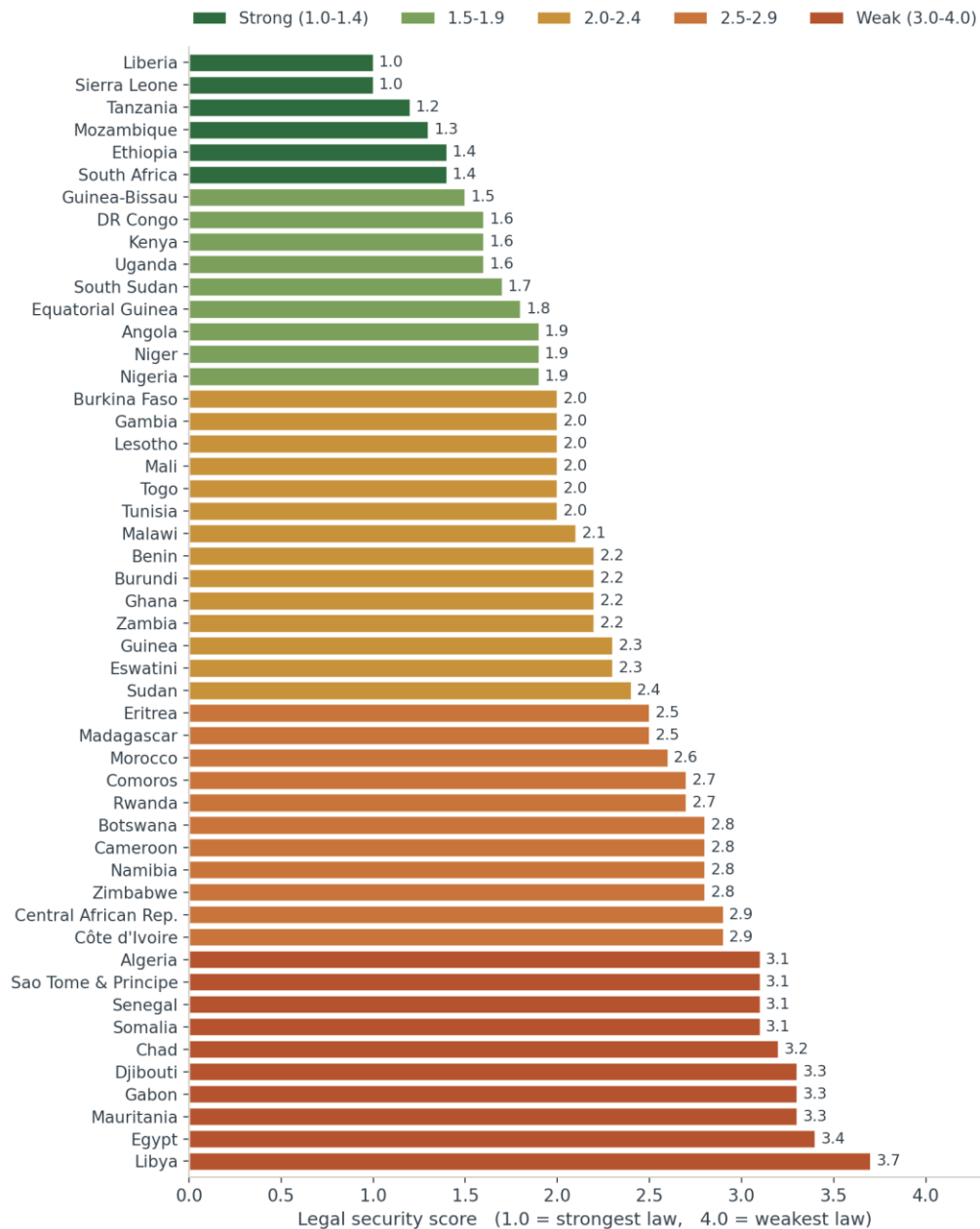
The share of Africa's land that is degraded nearly doubled in only four years, from 6.5 per cent in 2015 to 12.0 per cent in 2019. Sub-Saharan Africa is degrading several percentage points faster than the global average.

Figure 7: Proportion of Degraded Land in Africa (SDG 15.3.1), 2015–2019



Across 50 African countries, the average legal-protection score for community and indigenous land rights is 2.3, on a scale where 1.0 is the strongest law and 4.0 the weakest. Only three countries (Liberia, Sierra Leone and Tanzania) fall in the strongest band, while most leave community rights only partially protected.

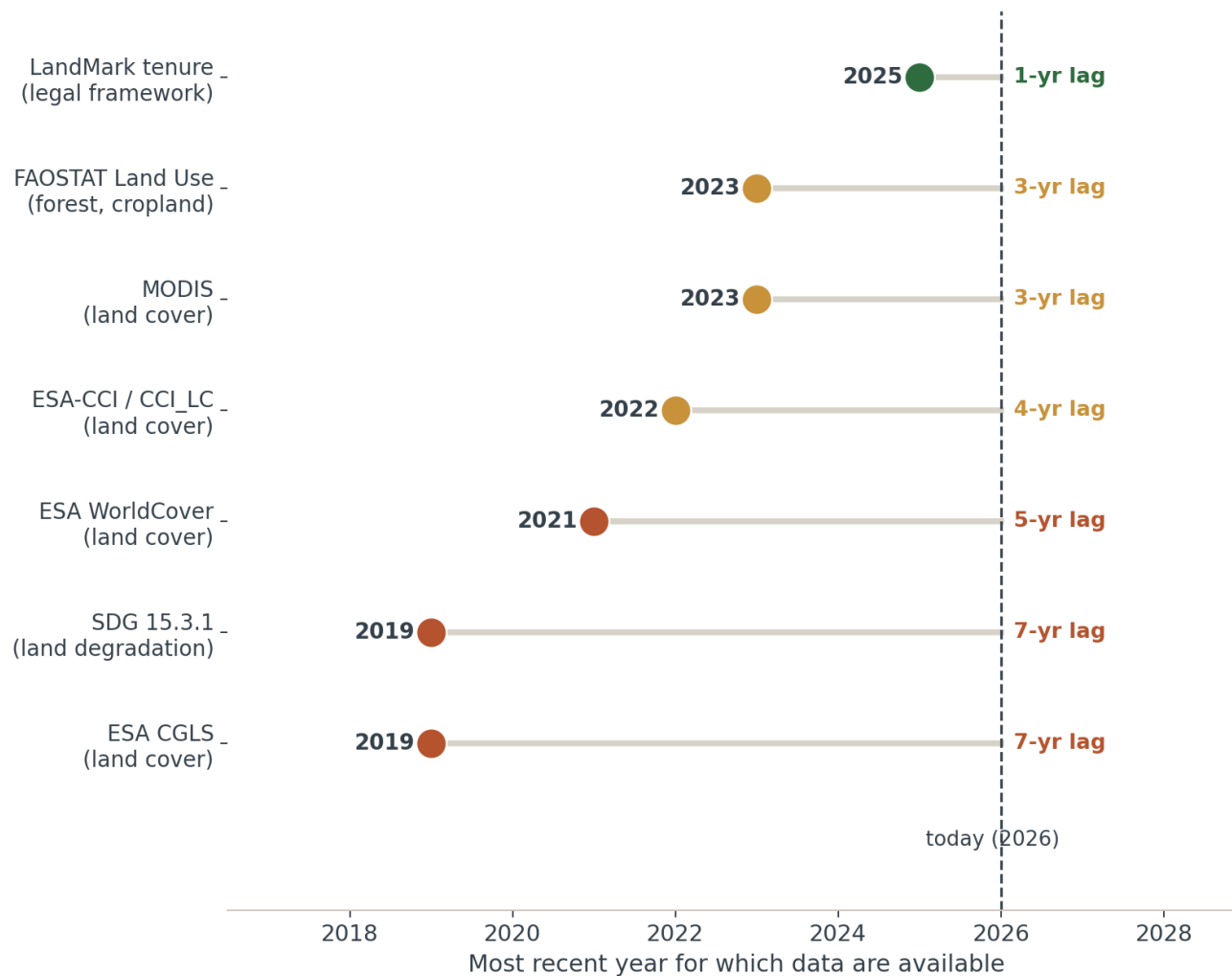
Figure 8: Legal Security of Community Land Rights, 50 African Countries



STATUS OF LAND STATISTICS IN AFRICA

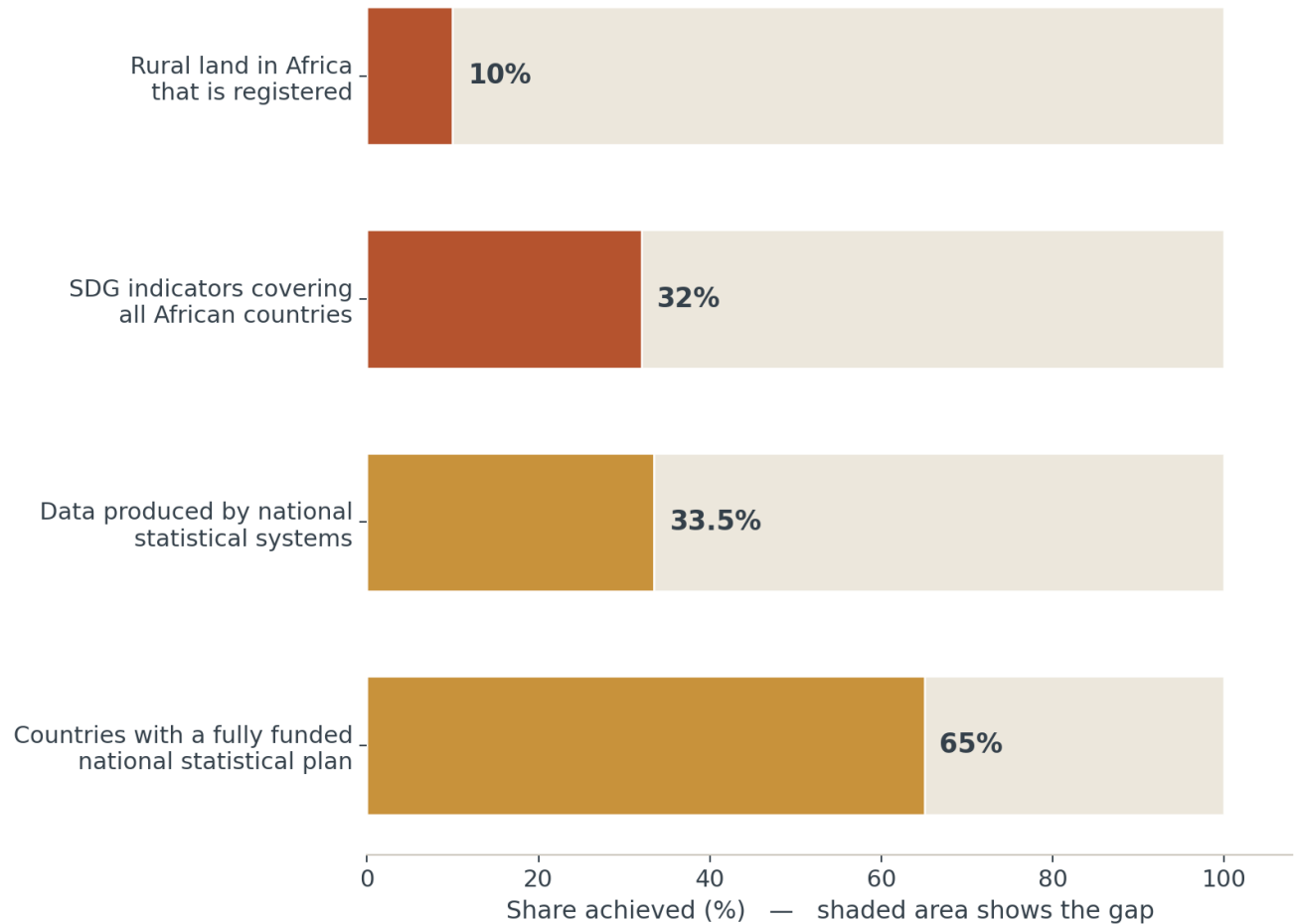
Africa's most-used land datasets are three to seven years out of date. The land-degradation indicator (SDG 15.3.1) and the CGLS land-cover product both stop at 2019, a seven-year lag behind the present.

Figure 9: Timeliness of Land Datasets by Latest Available Year



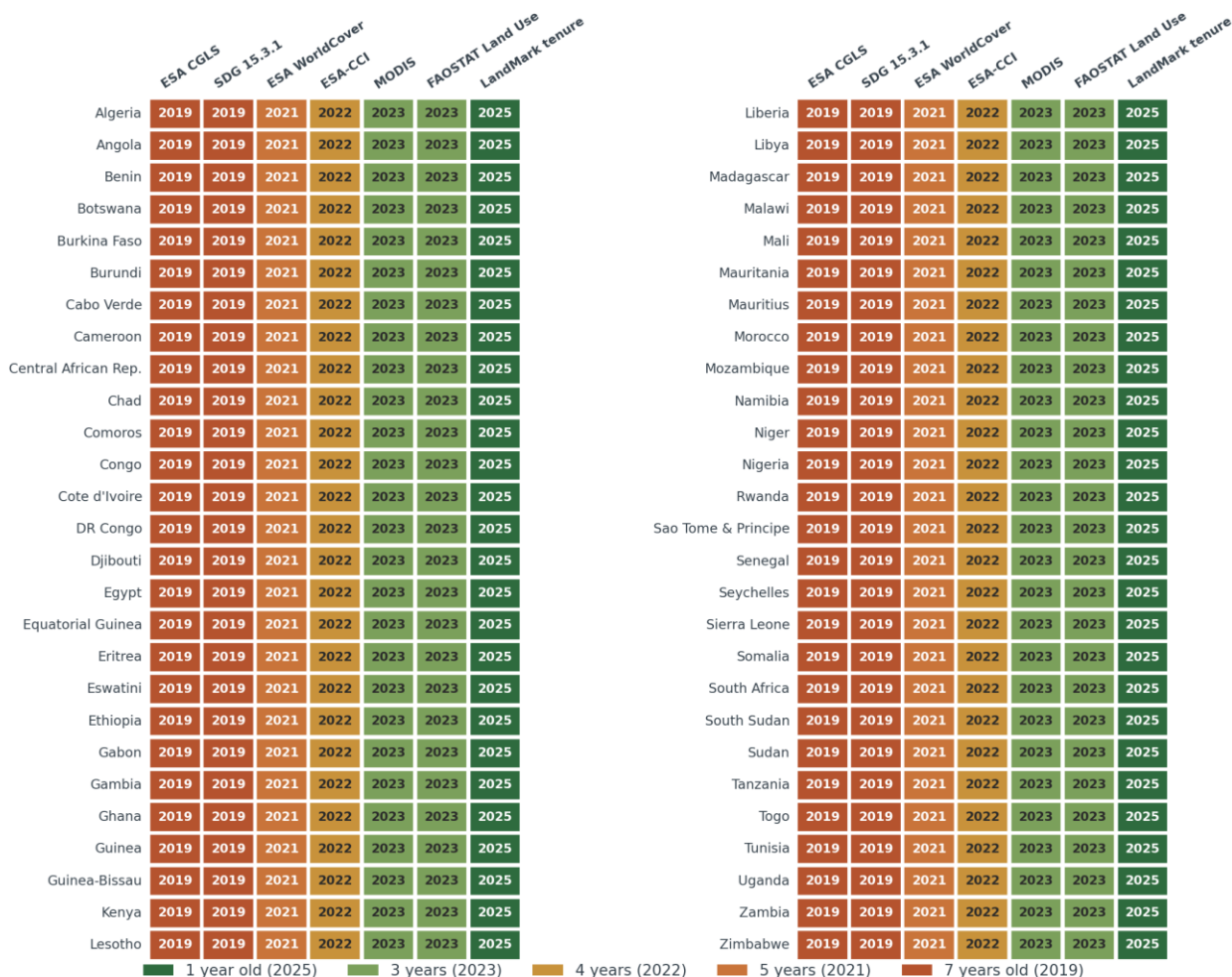
Only 32 per cent of SDG indicators have data covering every African country, and just one-third of the data used to track Africa's development is produced by national statistical systems. In 2023, only 65 per cent of African countries had a fully funded national statistical plan.

Figure 10: KEY Land-Data Coverage Measures for Africa



Land-data recency is identical for all 54 African countries: every nation depends on the same global datasets, with land cover dated 2019–2023 and land degradation dated 2019. No country holds more current national land data than any other; the lag is a continental condition, because nationally produced land statistics largely do not exist.

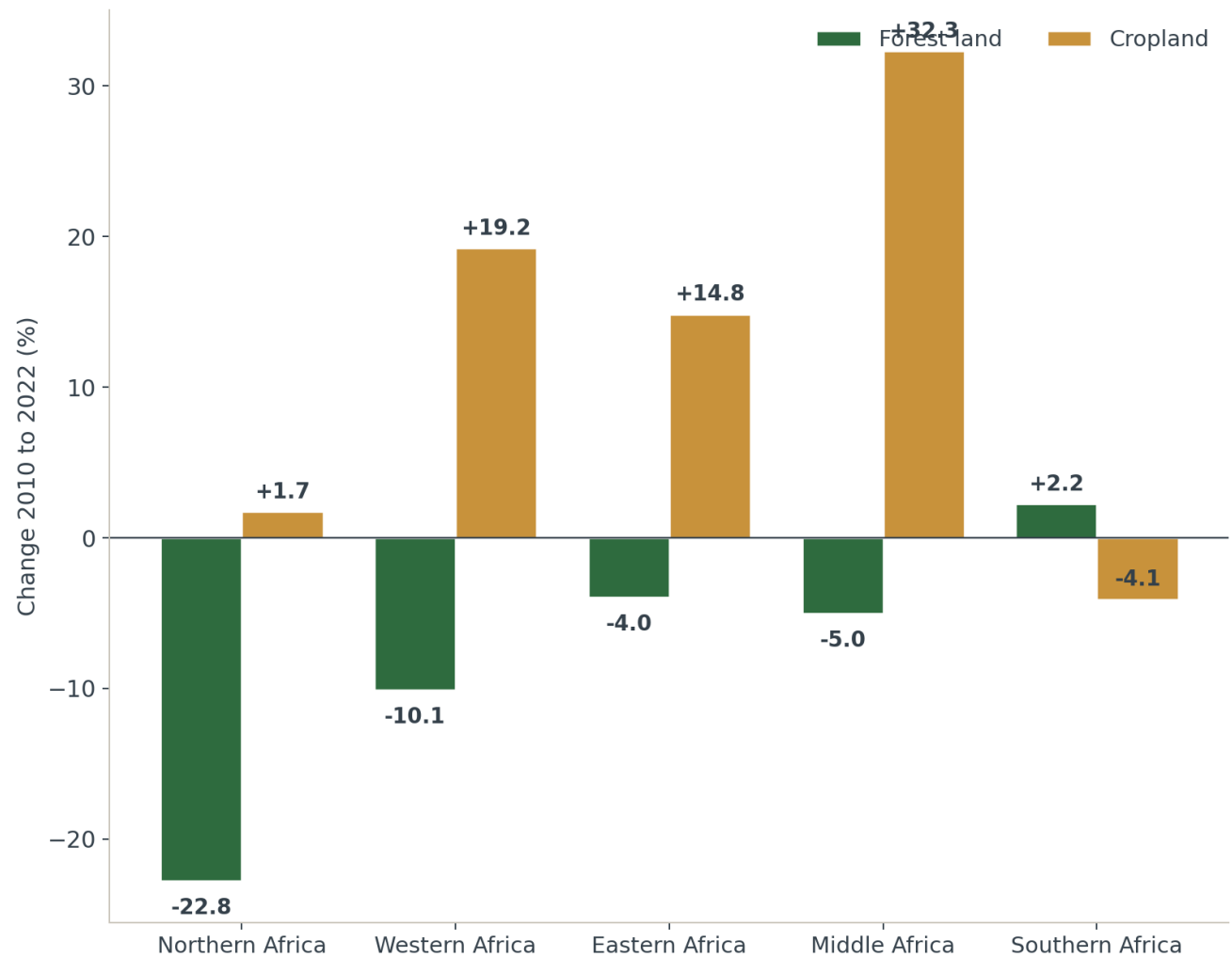
Figure 11: Land-Data Recency by Country, All 54 African Countries



COMPARABILITY OF LAND STATISTICS IN AFRICA TO THE REST OF THE WORLD

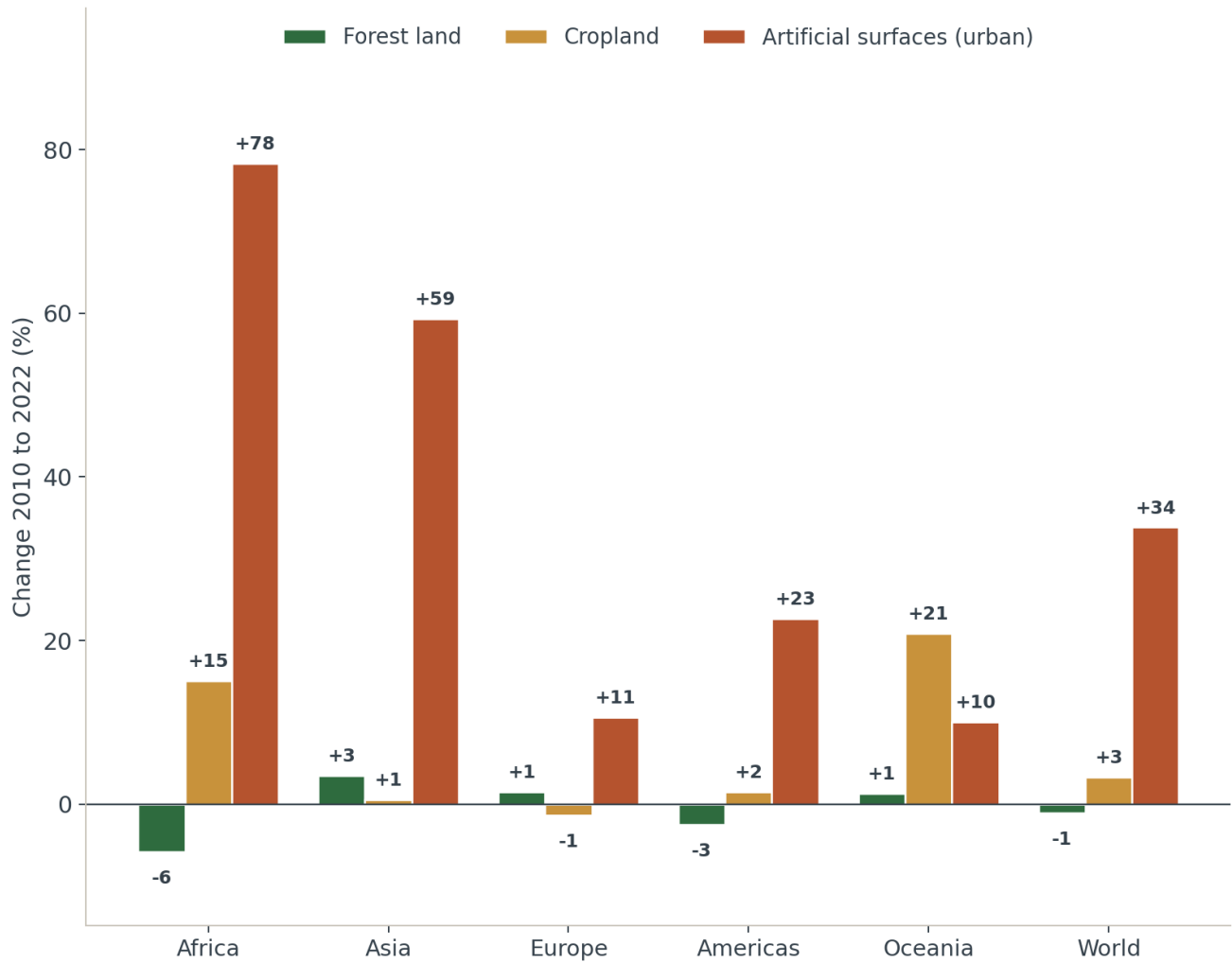
In every African sub-region, cropland expanded as forest contracted. Middle Africa's cropland grew by 32 per cent and Western Africa's by 19 per cent, while Northern Africa lost 23 per cent of its forest. The trade-off between farmland and forest is continent-wide.

Figure 12: Forest vs Cropland Change by African Sub-Region, 2010–2022



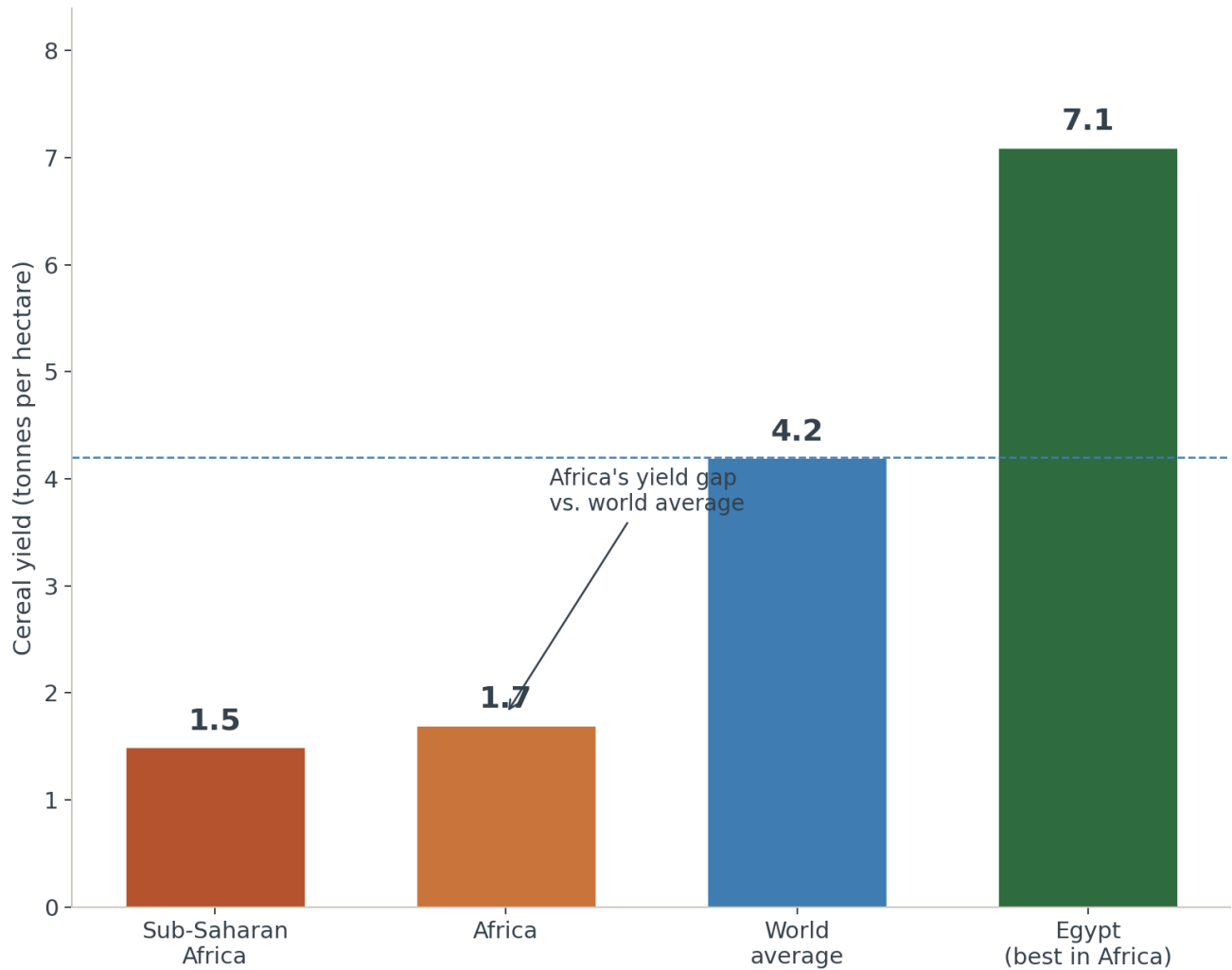
Africa lost forest nearly six times faster than the world average (a 5.9 per cent decline against 1.1 per cent globally) and accounts for roughly 91 per cent of the world's net loss of forest land. Its cropland (+15 per cent) and built-up land (+78 per cent) also expanded faster than in any other world region.

Figure 13: Land Cover Change in Africa vs Other World Regions, 2010–2022



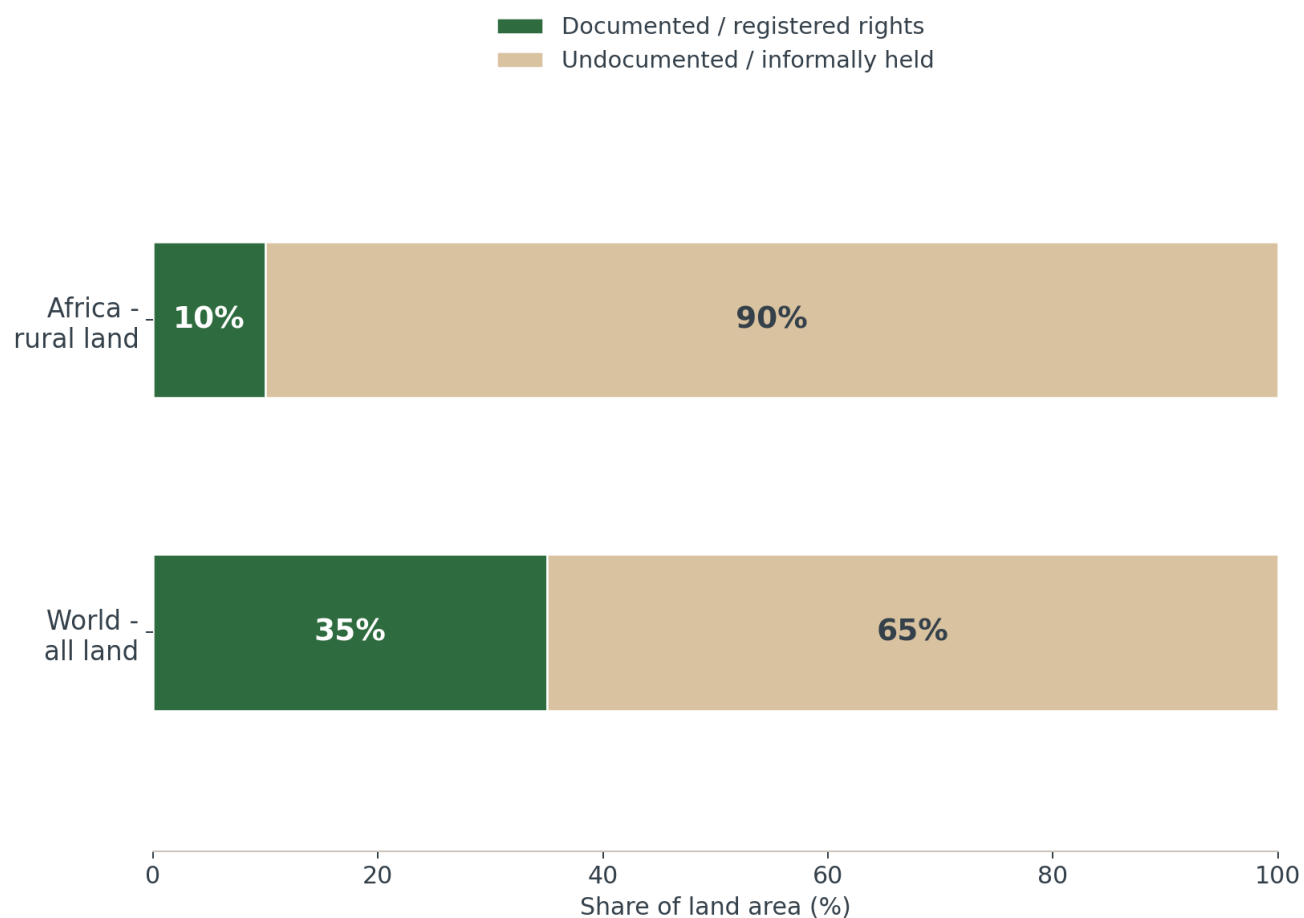
African cereal yields average just 1.7 tonnes per hectare, about 40 per cent of the world average of 4.2 tonnes. Egypt, the highest-yielding African country, reaches 7.1 tonnes per hectare, showing how much productive potential remains unrealized across the continent.

Figure 14: CEREAL Yields in Africa vs the World



Only about 10 per cent of Africa's rural land is formally registered; roughly 90 per cent is undocumented and outside any cadastral record. In Sub-Saharan Africa, 26 per cent of adults, about 121 million people, report feeling insecure about their land rights.

Figure 15: Documented vs Undocumented Land in Africa and the World



6. THE ECONOMIC STAKES: AN ILLUSTRATIVE GDP SCENARIO

The case for investing in land statistics is ultimately economic. Land statistics are not an end in themselves; they are inputs into the decisions that determine economic outcomes: where to invest, what to tax, which land to protect and whose rights to register. To make the stakes concrete, this section presents an illustrative scenario of the GDP associated with properly measured land.

The scenario is neither a **forecast** nor an **econometric estimate**. It is a transparent, assumption-based calculation of the share of currently documented land-related economic losses that better measurement could plausibly help recover.

The model is structured around three independent channels through which better land statistics may translate into GDP:

- C_1 - reduced land-degradation losses, through SDG 15.3.1 monitoring that enables sustainable-land-management targeting;
- C_2 - tenure formalization enabling investment and credit, through cadastral and registration statistics;
- C_3 - better land-use planning and valuation, through land-cover and land-use statistics feeding property taxation, urban planning and natural-capital accounts.

The economic loss from each channel is simulated independently as a share of GDP. The combined uplift is then presented as the arithmetic sum of the three components, together with an overlap-adjusted alternative because C_1 and C_2 share the soil-conservation investment mechanism that both bodies of literature measure.

6.1. Framework and base parameters

The three-channel model shares three base parameters, all sourced from published macroeconomic references:

Table 2: Base parameters of the GDP-impact simulation

Parameter	Value	Source
Base Africa nominal GDP (2024)	US\$ 3.1 trillion	IMF World Economic Outlook (April 2024). Sub-Saharan Africa + North Africa aggregated.
Baseline real GDP growth	4.0 % per year	AfDB, African Economic Outlook (2025). IMF SSA growth range 3.5 – 4.3 % (2024–2027).
Uplift phase-in horizon	10 years (linear)	Modelling assumption: full maturity assumed by year 10 (2034).

Note: All monetary values in the simulations are expressed in constant 2024 US dollars (real terms), because the 4% growth path is the IMF/AfDB real-growth series.

6.2. Component 1 (C_1): Reduced land degradation losses

The first channel is the value of the losses that better information on land degradation can help prevent. When national statistical offices produce timely data on where soils are eroding, where vegetation is thinning and where productivity is falling, sustainable land management can be directed to the places where it earns the highest return. That includes soil conservation on cultivated plots, agroforestry on marginal land, and restoration on degraded rangelands. The uplift attributable to Component 1 is therefore the product of

two things: the annual cost of land degradation, and the share of that cost that better measurement plausibly helps to recover.

$$C_1 = D \times R$$

The value used for parameter **D**, the annual cost of land degradation as a percentage of GDP, is drawn from published research. The ELD Initiative and UNEP report *The Economics of Land Degradation in Africa: Benefits of Action Outweigh the Costs* provides the primary basis, together with the Springer volume by Nkonya, Mirzabaev and von Braun (2016), whose ninth chapter covers Africa south of the Sahara. Both place the cost in a band of 3 to 7 per cent of GDP. The lower bound counts only provisioning services from land and corresponds to the widely cited estimate of about **US\$ 65 billion per year** for the continent. The upper bound includes the full set of ecosystem services, adding regulating, cultural, and supporting services on top of provisioning.

Parameter **R**, the share of the degradation cost that better measurement helps to recover, is not drawn from a specific published estimate. The ELD and UNEP evidence base establishes that sustainable land management investment returns roughly five to seven dollars for every dollar spent. However, it does not attribute a precise share of that recovery to improved measurement alone. R is therefore bounded conservatively at five to thirty per cent, so that the top of the range does not exceed what the evidence supports.

Table 3: Component 1 (C_1): Reduced land degradation losses

Case	D: cost of degradation (% GDP)	R: recoverable share	C_1 (% of GDP)	Value at today's GDP in constant 2024 US dollars (US\$ bn / yr)
Low	3.0 %	5 %	0.15 %	4.7
Central	4.5 %	15 %	0.68 %	21.1
High	7.0 %	30 %	2.10 %	65.1

6.3. Component 2 (C_2): Tenure formalisation, investment and credit

The second channel captures two ways in which documented land contributes to productive investment. The first is agricultural. Farmers who hold secure title invest over a longer horizon. They plant trees, terrace slopes and install irrigation, all of which raise agricultural value added over time. The second is financial. Documented land can be pledged as collateral, which expands credit to farmers and to the wider economy. Both mechanisms are well studied. Their effect sizes are also uneven across settings, and the credit mechanism in particular has proved harder to convert into practice than early theory suggested.

$$C_2 = (\alpha \times \lambda) + \kappa$$

Parameter **α** is agriculture's share of Africa's GDP, at approximately **15.4 per cent**. The value comes from the World Bank *World Development Indicators* series NV.AGR.TOTL.ZS (Agriculture, forestry and fishing, value added, % of GDP), for 2023.

Parameter **λ** , the lift in agricultural value added attributable to secure tenure, is calibrated on the meta-analytic literature. Lawry, Samii, and colleagues, in their 2014 Campbell Systematic Review, pool twenty rigorous evaluations and report a mean productivity gain of about thirteen per cent for property rights

interventions in Africa, with a wide confidence interval. Individual African studies confirm the mechanism, including Deininger, Ali and Alemu on Ethiopia (*Land Economics*, 2011), Ali, Deininger and Goldstein on Rwanda (*Journal of Development Economics*, 2014), and Goldstein and Udry on Ghana (*Journal of Political Economy*, 2008). Because those estimates come from plot-level evaluations and λ is applied here to the entire agricultural value added of the continent, the parameter is set with a substantial reduction to account for extrapolation. The three cases for analysis are one, four and eight per cent, all well below the pooled effect reported in the systematic review.

Parameter κ , the economy-wide credit and collateral effect, is the classic dead capital channel described by de Soto in *The Mystery of Capital* (2000). Its most ambitious readings imply an annual GDP effect from unlocked credit of roughly one to three per cent. The empirical evidence in Africa is considerably weaker. Byamugisha, in *Securing Africa's Land for Shared Prosperity* (World Bank, 2013), finds modest credit responses to titling, and Field's evaluations of the Peruvian titling programme (Field 2007; Field & Torero, 2006) find mortgage market responses roughly an order of magnitude smaller than the dead capital tradition would predict. κ is therefore set at 0.05 per cent, 0.20 per cent and 0.50 per cent of GDP, well below the theoretical ceiling and inside the empirical range.

Table 4: Component 2 (C_2): Tenure formalisation, investment and credit

Case	α : ag share (% GDP)	λ : ag lift	$\alpha \times \lambda$	κ : credit effect	C_2 (% of GDP)	US\$ bn / yr
Low	15.4 %	1 %	0.15 %	0.05 %	0.20 %	6.2
Central	15.4 %	4 %	0.62 %	0.20 %	0.82 %	25.4
High	15.4 %	8 %	1.23 %	0.50 %	1.73 %	53.6

6.4. Component 3 (C_3): Better land use planning and valuation

The third channel gathers three modest gains that better land information produces across the economy. One is greater property tax capacity, because cadastral information supports more accurate valuation of individual properties and broader coverage of the property tax base. Another is more efficient urban planning and infrastructure siting, because current land-cover data allows public investment to be located coherently rather than by extrapolation. The third is better natural capital accounting on the national balance sheet, following the System of Environmental-Economic Accounting, so land is treated as a managed asset with value rather than an unpriced background.

$$C_3 = P + V$$

Parameter P , the property tax capacity effect, is anchored on Franzsen and McCluskey, *Property Tax in Africa: Status, Challenges, and Prospects* (Lincoln Institute of Land Policy, 2017). Property tax revenue across African countries currently averages between 0.1 and 0.4 per cent of GDP, against a plausible potential of one to two per cent. The absence of up-to-date cadastral information is repeatedly identified as the binding constraint. P is set at 0.03 per cent, 0.20 per cent and 0.40 per cent of GDP, corresponding to unlocking a small fraction of that gap through better statistics.

Parameter V , the residual planning and valuation effect, is the smallest and softest input in the whole model. It captures gains from better infrastructure siting and from bringing land onto the balance sheet through

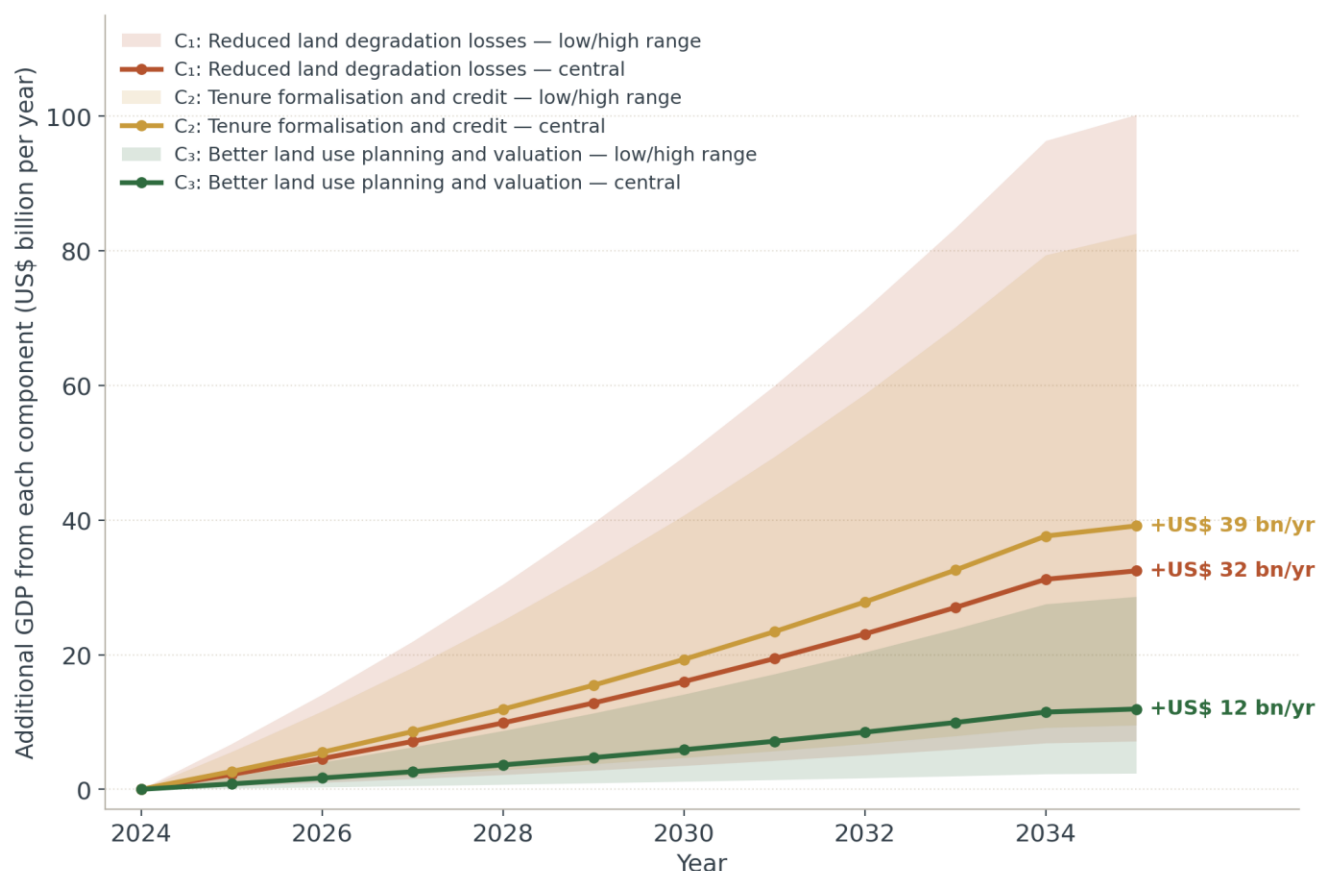
natural capital accounting under the SEEA Central Framework (UN Statistics Division, 2014). No single published estimate exists for these effects on a continental scale, so V is set at 0.02 per cent, 0.05 per cent and 0.20 per cent of GDP as an envelope estimate. It is kept small deliberately, so that Component 3 does not dominate the aggregate. Under the central case, its share of the total uplift is roughly one seventh.

Table 5: Component 3 (C₃): Better land use planning and valuation

Case	P: property tax effect	V: planning and valuation	C ₃ (% of GDP)	US\$ bn / yr
Low	0.03 %	0.02 %	0.05 %	1.6
Central	0.20 %	0.05 %	0.25 %	7.8
High	0.40 %	0.20 %	0.60 %	18.6

The three components are shown on one axis so their trajectories can be compared directly. Each solid line is the central case; each shaded band is the low to high range. Component 2 has the highest central contribution and Component 1 the widest range, driven by the multiplicative interaction of degradation cost and recoverable share. Component 3 is the smallest and narrowest

Figure 16: GDP uplift over time by component (US\$ billion per year, nominal)



6.5. Combined scenario and overlap adjustment

Summing up the three components gives the aggregate uplift shown in Table 6. This is the headline scenario reported in the accompanying figures 16 and 17

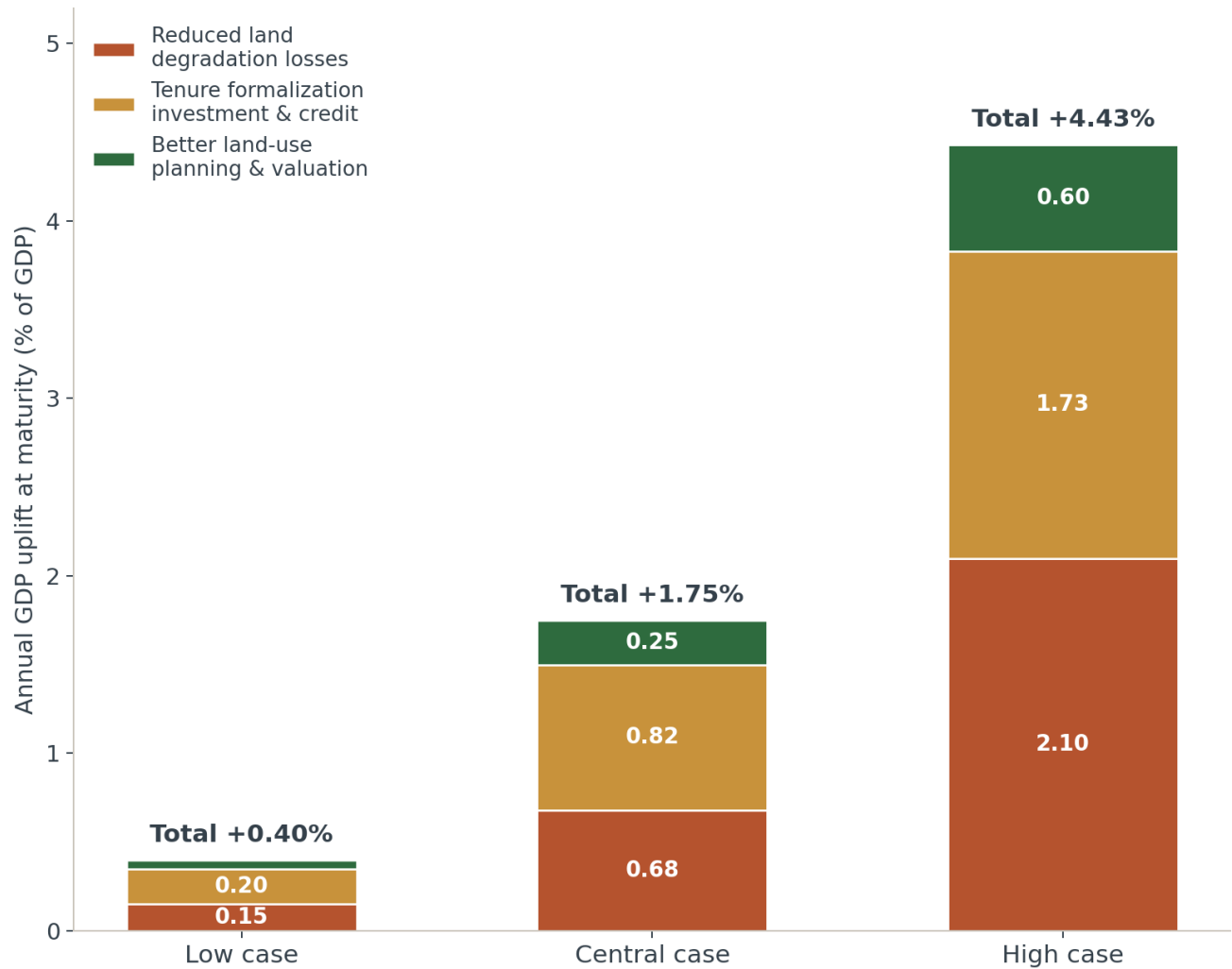
Table 6: Combined scenario, arithmetic sum of the three components

Case	C ₁	C ₂	C ₃	Total uplift (% of GDP)	US\$ bn / yr
Low	0.15 %	0.20 %	0.05 %	0.40 %	12.4
Central	0.68 %	0.82 %	0.25 %	1.75 %	54.2
High	2.10 %	1.73 %	0.60 %	4.43 %	137.3

The arithmetic sum in Table 6 is best read as an **upper bound**. This is because Components 1 and 2 share one mechanism. Soil conservation investment is the largest measured effect of tenure certification in the two most cited African evaluations: Ethiopia by Deininger, Ali and Alemu (2011) and Rwanda by Ali, Deininger and Goldstein (2014). Soil conservation is also the primary route through which the recoverable share of Component 1 is realised. Some fractions that the model counts under Component 2 as agricultural productivity from secure tenure, and under Component 1 as recovery of degradation losses through targeted management, describe the same real-world investment. To account for that overlap, a thirty per cent haircut is applied to the agricultural component of C₂ in the region where it overlaps with C₁. The **overlap-adjusted central estimate becomes approximately 1.56 per cent of GDP**, or about US\$ 48 billion per year at today's GDP. Both headline figures bracket the honest central range: the naive sum stands at 1.75 per cent as an upper bound, and the overlap-adjusted central estimate sits at 1.56 per cent.

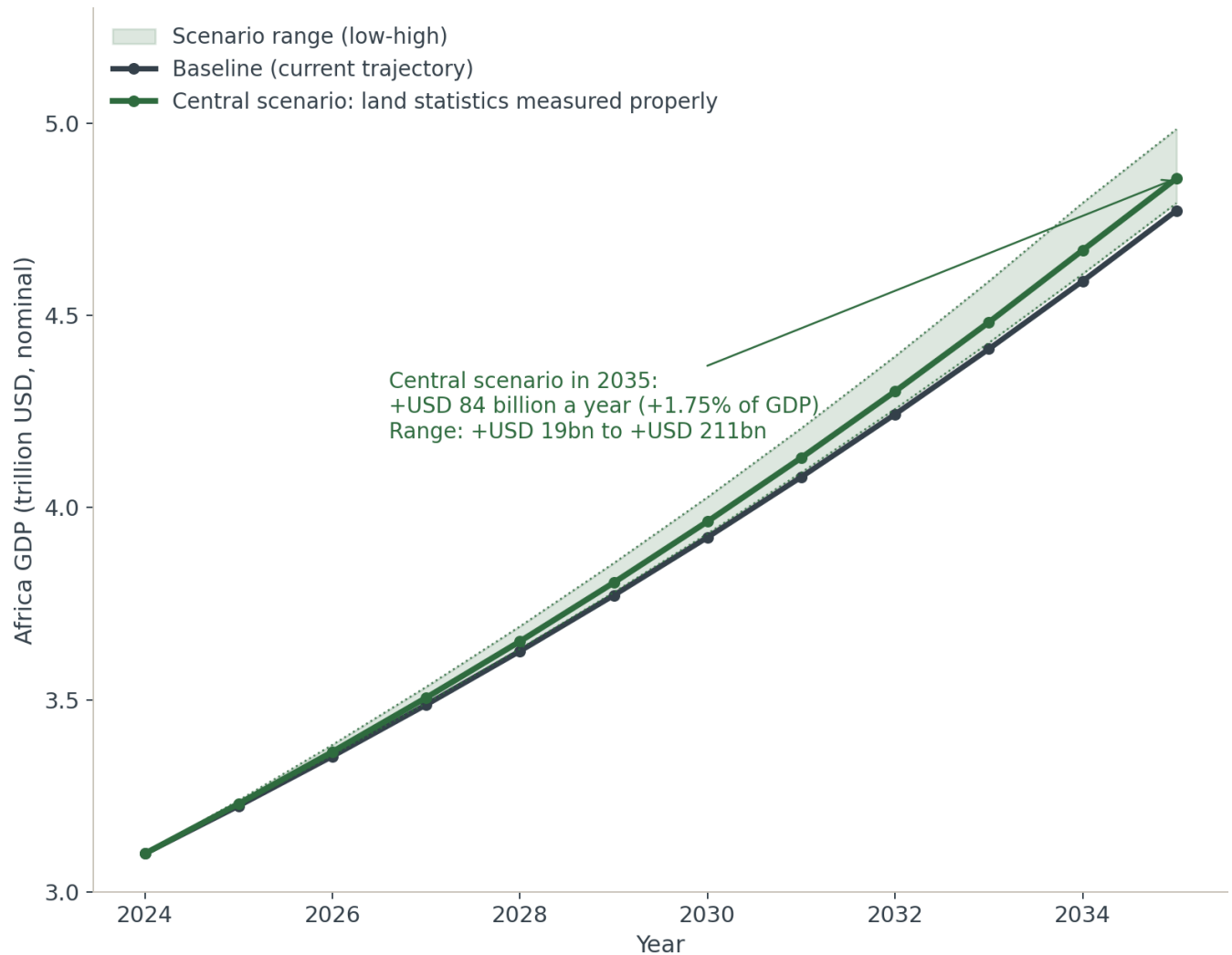
The illustrative GDP uplift spans +0.4 per cent (low) to +4.4 per cent (high) of GDP. In the central case, reduced land degradation contributes 0.68 percentage points, tenure formalisation 0.82, and better land-use planning and valuation 0.25, for a combined uplift of 1.75 per cent of GDP.

Figure 17: GDP Uplift by Channel and Scenario



If land statistics were measured properly, the central scenario lifts Africa's GDP by about 1.75 per cent at maturity, roughly US\$54 billion a year at today's GDP, rising to about US\$84 billion a year by 2035 and a cumulative US\$478 billion over 2025–2035. The illustrative range is wide: from US\$12 billion a year (low) to US\$137 billion a year (high).

Figure 18: Illustrative Scenario of Africa's GDP if Land Statistics Were Measured Properly



7. CONCLUSION

Across all four indicators (land cover, land cover change, land productivity and land tenure), Africa's land-statistics system is found wanting in the same three ways. The data are incomplete; out of date; and, where they exist, frequently cannot be reconciled. The continent whose land is changing fastest is the continent least able to measure that change. This is not merely a statistical inconvenience: it is a governance failure with a measurable economic cost, illustrated in Section 6.

The remedy is not more data alone but more coherent data. In the order of the evaluation criteria set out in this brief, four priorities follow:

6. Harmonize. Adopt common land-cover and land-use classifications and a common reference period across national statistical offices, national mapping agencies and line ministries, so that land statistics can be combined rather than merely accumulated.
7. Make it current. Close the timeliness gap by institutionalising regular, nationally owned land-cover and land-degradation updates, rather than relying on global products that arrive three to seven years late.
8. Measure tenure. Build the cadastral and survey base needed to record land rights, beginning with the roughly 90 per cent of rural land that is currently undocumented.
9. Value land. Bring land onto the national balance sheet through environmental-economic accounting, so that its economic value is visible to finance ministries and to investors.

A nation that cannot measure its land cannot govern it well. The evidence assembled in this brief suggests that measuring it properly is also one of the most cost-effective investments Africa can make. The data gap is real, but so is the dividend from closing it.

Data Sources and References

- FAOSTAT, Land Cover domain (ESA-CCI / CCI_LC, MODIS, Copernicus Global Land Service, ESA WorldCover). Food and Agriculture Organisation of the United Nations. Used in Figures 1–4, 7, 14.
- FAOSTAT, Land Use domain (forest land, cropland, agricultural land); FAO Global Forest Resources Assessment. Used in Figures 3, 5, 6, 7, 14.
- LandMark, Global Platform of Indigenous and Community Lands. Indicators of the Legal Security of Indigenous and Community Lands, 2025 assessment. Used in Figures 10, 14.
- UNCCD, Data Dashboard: Proportion of degraded land over total land area (SDG indicator 15.3.1); FAO SDG Indicators Data Portal. Used in Figures 9, 12, 14.
- World Bank, World Development Indicators: Cereal yield (AG.YLD.CREL.KG) and GDP (current US\$); “Securing Africa’s Land for Shared Prosperity” (2013). Used in Figures 8, 11, 13, 15–16.
- Prindex, Global property-rights data, 2024, covering perceived tenure security in Sub-Saharan Africa. Used in Figure 11.
- IMF, World Economic Outlook; UN Economic Commission for Africa, statistical-capacity assessments; UN SDG Report 2025. Used in Figures 13, 15–16.
- ELD Initiative / UNEP, The Economics of Land Degradation in Africa: Benefits of Action Outweigh the Costs. Used in Figures 15–16.
- Our World in Data, Cereal yields by world region; UNCCD Global Land Outlook 2.
- UNECA African Centre for Statistics, Africa Beyond Numbers Series (statistical-blocks framework).

Estimate	Region	Share of GDP	Source
Annual cost of land degradation	Sub-Saharan Africa	~7% of GDP	IFPRI / ELD studies
Provisioning losses only (agriculture, grazing, etc.)	Sub-Saharan Africa	~3.3% of GDP	IFPRI / Springer
Cost of inaction against degradation	42 African countries	~12.3% of GDP	UNEP / ELD
Benefits from taking action	42 African countries	~5.3% of GDP annually	UNEP / ELD

International Food Policy Research Institute (IFPRI)

United Nations Environment Programme (UNEP)

Appendix

Figure 1: Availability status of Land Statistics across Africa NSOs

Country	Ag Census	Land cover	Land cover changes	Land productivity	Land tenure
Nigeria	Y	Y	Y	Y	Y
Rwanda	Y	Y	Y	Y	Y
South Africa	Y	Y	Y	Y	Y
Mauritius	Y	Y	L	Y	Y
Uganda	Y	Y	Y	Y	L
Egypt	Y	L	L	Y	Y
Kenya	Y	L	L	Y	Y
Namibia	Y	L	L	Y	Y
Tanzania	Y	L	L	Y	Y
Zimbabwe	Y	L	L	Y	Y
Ethiopia	Y	L	L	Y	L
Morocco	Y	L	L	Y	L
Tunisia	Y	L	L	Y	L
Liberia	Y	L	N	Y	L
Angola	Y	N	N	Y	L
Benin	Y	N	N	Y	L
Botswana	Y	N	N	Y	L
Comoros	Y	N	N	Y	L
Ghana	Y	N	N	Y	L
Malawi	Y	N	N	Y	L
Senegal	Y	N	N	Y	L
Sierra Leone	Y	N	N	Y	L
Togo	Y	N	N	Y	L
Burkina Faso	L	N	N	Y	L
Madagascar	L	N	N	Y	L
Mozambique	L	N	N	Y	L
Gabon	L	N	N	Y	N
Guinea	L	N	N	Y	N
Lesotho	L	N	N	Y	N
Niger	L	N	N	Y	N
Zambia	L	N	N	Y	N
Algeria	N	N	N	Y	N
Burundi	N	N	N	Y	N
Cabo Verde	L	N	N	L	N
Cameroon	L	N	N	L	N
Chad	N	N	N	Y	N
Congo (Brazzaville)	L	N	N	L	N
Eswatini	L	N	N	L	N
Gambia	L	N	N	L	N
Mali	N	N	N	Y	N
Mauritania	N	N	N	Y	N
Somalia	N	N	N	Y	N
Sudan	L	N	N	L	N
Central African Rep.	N	N	N	L	N
Cote d'Ivoire	N	N	N	L	N
DR Congo	N	N	N	L	N
Djibouti	N	N	N	L	N
Guinea-Bissau	N	N	N	L	N
Sao Tome & Principe	N	N	N	L	N
South Sudan	N	N	N	L	N
Equatorial Guinea	N	N	N	N	N
Eritrea	N	N	N	N	N
Libya	N	N	N	N	N
Seychelles	N	N	N	N	N

■ Y — published
 ■ L — limited / dated
 ■ N — not found on NSO site

Figure 2: Recency of Agriculture survey across NSOs in Africa

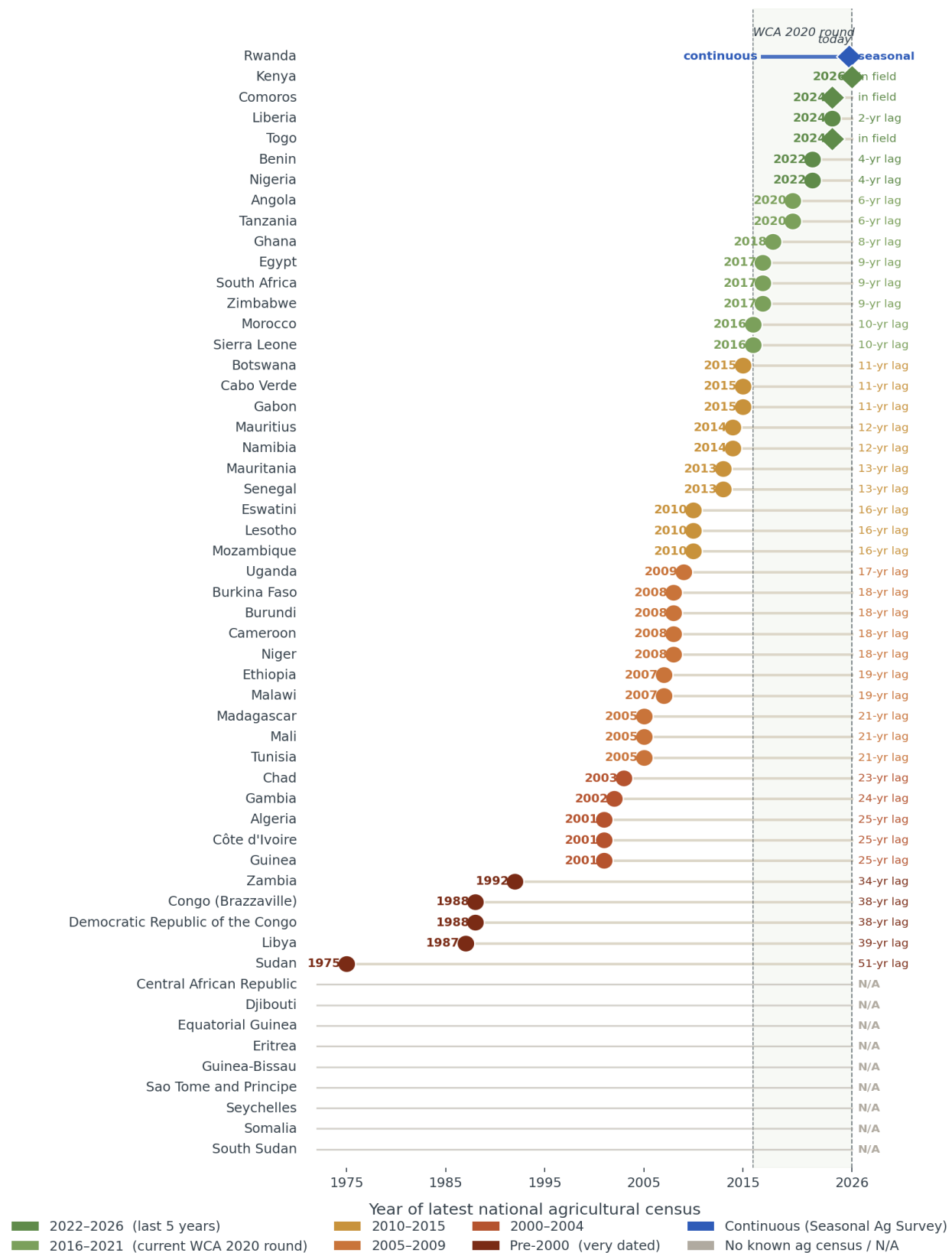


Table 1: Summarized Definitions of Land Statistics Indicators

Term	Definition
Land statistics	The body of official statistics describing the extent, condition, use, ownership and value of land.
Statistical block	A coherent, integrated set of statistics that together address one policy domain; for land it comprises land cover, land cover change, land productivity and land tenure.
Land cover	The observed physical and biological cover of the earth's surface, for example tree-covered areas, grassland, cropland, water bodies or artificial surfaces.
Land cover change	The conversion of land from one cover class to another over time, for example forest to cropland, or vegetated land to artificial (built-up) surface.
Land productivity	The biological productive capacity of land and the trend in that capacity; a core sub-indicator of land degradation, commonly proxied by crop yields and vegetation productivity.
Land degradation	The reduction or loss of the biological or economic productivity of land; measured by SDG indicator 15.3.1, the proportion of land that is degraded.
Land tenure	The legal and customary arrangements through which individuals and communities hold, use and transfer rights to land. Tenure security is the degree to which those rights are recognized and protected.
Comparability	The degree to which land statistics from different sources, definitions or reference periods can be meaningfully combined or compared.
Illustrative scenario	An estimate of what an outcome (here, GDP) might be under stated conditions; used in this brief to illustrate stakes transparently, not to forecast.