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The Green Revolution Has Failed Africa

Twenty Years of Evidence
and What Works Instead



AF  SA

ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA

Foreword

For more than two decades, Africa has been promised an agricultural transformation based on improved seeds, synthetic fertilisers, mechanisation and commercial markets. Governments were urged to subsidise inputs, reform policies and attract private investment. Yields would rise, farmers would prosper and hunger would fall.

Twenty years is long enough to ask: **what has this model delivered?**

This report tests those promises against the evidence. Across the thirteen countries prioritised by AGRA, fertiliser use more than doubled and cultivated land expanded by 46 per cent, yet staple-yield growth did not accelerate. Much of the production increase came from bringing more land under cultivation, while crops such as millet and sorghum lost ground. Most troublingly, the number of chronically undernourished people increased by 58 per cent.

This is not an argument against improved seeds, fertiliser or new technology. Farmers need science, finance, infrastructure and strong public support. The question is what kind of food system these investments are building, who controls it and who benefits.

Across Africa, farmers are already building alternatives: restoring soils, conserving and exchanging seed, integrating crops, trees and livestock, and reducing dependence on costly external inputs. Women and young people are developing enterprises around biofertilisers, indigenous foods, processing and territorial markets. These are practical responses to climate change, rising input costs, declining biodiversity and the need for greater farmer autonomy.

The evidence shows that diversified agroecological systems can strengthen food security, soil health and farmer agency, while keeping more value within African communities. Governments and regional institutions are increasingly recognising agroecology in policies and strategies. The challenge is now implementation and financing.

That challenge is urgent. African governments are beginning another ten-year agricultural strategy under the Kampala CAADP framework. Decisions taken now will determine where billions of dollars of public, development and climate finance go.

Africa is not short of agricultural finance. The question is what we choose to finance.

We should not spend the next decade rediscovering what the last twenty years have already taught us. Public investment should support healthy soils, farmer-managed seed systems, diversified production, farmer-led extension, local processing and territorial markets.

Above all, African farmers must no longer be treated simply as beneficiaries or adopters of agricultural transformation.

They must be its authors. Africa does not need another Green Revolution. We need a food systems transformation rooted in our people, our biodiversity, our knowledge and our right to determine our own agricultural future.

Dr Million Belay

General Coordinator, Alliance for Food Sovereignty in Africa (AFSA)

Executive Summary

The occasion

In 2026, AGRA marks its twentieth year as African governments begin implementing another ten-year agricultural strategy under the Kampala Declaration. Eighteen years of national data now make it possible to judge the Green Revolution model by what it produced.

The issue is larger than whether AGRA met the targets it announced in 2006. It is whether two decades of increased fertiliser use, public subsidy, commercial seed promotion and policy reform accelerated productivity, used land more efficiently, strengthened resilience and improved food security. The evidence shows that they did not. Yet many of the same assumptions and investment priorities have been carried forward to 2035.

The evidence

The report draws on institutional records, quantitative analysis, peer-reviewed research and field evidence. Its quantitative core is Timothy Wise's 2026 analysis of FAO data across thirteen focus countries over eighteen years. This is read alongside the Kampala Declaration, the AU's 2026–2035 Strategy and final Malabo review; AGRA's policy briefs, strategy reports and tax filings; and the donor-commissioned Mathematica evaluation.

None of the institutions that financed the model has undertaken a comprehensive twenty-year evaluation, and AGRA has not released its monitoring data for independent assessment. The available evidence is therefore incomplete. But the convergence of national data, donor evaluation, institutional records and peer-reviewed research is strong enough to reach a clear verdict.

Six findings

1. Twenty years of investment did not accelerate staple yields. Fertiliser use more than doubled, but weighted staple yields grew by only 1.2 per cent a year, slightly below the 1.3 per cent annual growth achieved in the twelve years before AGRA. Maize yields increased but far less than anticipated while millet, roots and tubers, and groundnut yields declined.

2. Production growth depended more on expanding cultivated land than raising productivity. Cropped land expanded by 46 per cent. For most promoted crops, the area planted grew faster than yields. Maize area increased by 71 per cent while yields rose 40 per cent; cassava area more than doubled while its yields fell. This is expansion, not agricultural transformation.



Twenty years— is long enough to judge the Green Revolution model by its results.

3. The model narrowed cropping systems. Millet and sorghum fell from 26 per cent of cultivated land to 16 per cent. The shift displaced crops important to nutrition, local food cultures and resilience under dry conditions, while increasing dependence on maize, commercial seed and purchased inputs.

4. Hunger rose, and the focus countries gained no measurable advantage. The number of chronically undernourished people across the thirteen countries rose by 58 per cent, from 94.6 million to 149.6 million, almost the same increase recorded across sub-Saharan Africa as a whole. Even countries with comparatively strong yield growth did not necessarily reduce hunger. Malawi recorded the strongest staple-yield growth in the group, but its number of undernourished people still rose by 61 per cent.

Senegal shows that better outcomes did not require input-led intensification as the organising model. Over the same period, it increased its staple-yield index by 73 per cent, retained millet, sorghum and groundnuts, used roughly half as much fertiliser per hectare as the AGRA-country average and reduced hunger by half. Senegal is not a controlled experiment or a completed agroecological transition, but its record demonstrates that the Green Revolution pathway was not a necessary condition for productivity or hunger reduction.

5. Public costs rose while benefits remained unproven. African governments, not philanthropy, became the model's principal financiers through subsidy programmes that in some countries consumed most of the agricultural budget. AGRA's own studies describe many of these programmes as costly, poorly targeted, fiscally unsustainable and vulnerable to diversion or elite capture. Evidence of sustained income gains remains weak, and AGRA itself acknowledged that it could not demonstrate a causal relationship between its work and farmers' incomes.

6. The model is being expanded despite the evidence. AGRA has moved from directly promoting smallholder productivity towards policy advice, private-investment facilitation and programme implementation. At much greater financial scale, the African Development Bank, World Bank and Kampala CAADP framework continue to promote commercial seed, fertiliser, mechanisation, agro-industrialisation and private investment. CAADP moves the goals of ending hunger and halving poverty forward by another decade without adequately accounting for why the previous strategy failed.

What works instead

The choice is not between continuing the present model and withdrawing support from farmers. A substantial body of evidence supports a different investment strategy based on diversified agroecological systems.

Reviews cited in this report find that agroecological approaches can maintain or improve production while strengthening food security, soil health, resilience, resource efficiency and farmer agency. One review found positive food-security or nutrition outcomes in 78 per cent of the studies examined; another found higher yields in 63 per cent of smallholder comparisons reporting yield, alongside improvements in multiple adaptation indicators. These findings do not mean that every agroecological practice outperforms every conventional system. They show that agricultural performance must be judged across the whole farm and food system, not only by the yield of one commodity.

The practical elements already exist: biological soil fertility that reduces recurring input costs; diversified farms integrating crops, trees and livestock; locally adapted and farmer-managed seed; climate-resilient farming based on diversity and healthy soils; agroecological enterprises and territorial markets that keep more value locally; and public and farmer-led extension based on experimentation and shared knowledge rather than input sales.

Increasingly, these approaches also have a policy base. Agroecology is now recognised in the CAADP Strategy and Action Plan. ECOWAS operates a regional agroecology programme across its member states, while East Africa is considering an EAC Agroecology Bill. By early 2026, national agroecology strategies or laws had been adopted in Benin, Burkina Faso, Ethiopia, Kenya, Tanzania and Tunisia, with several other countries developing their own. Kenya's Murang'a County has gone further, giving agroecology the force of law, with other counties adopting policies of their own.

This uptake matters. The alternative is no longer confined to civil-society projects or isolated farming communities. African governments, regional institutions and local authorities are beginning to put agroecology into official policy. But adoption is running ahead of implementation: many strategies still lack budgets, indicators and institutional support, and evidence of their effect on the ground remains limited.

What needs to change

The policy argument has moved on. The question is no longer simply whether African governments should recognise agroecology; a growing number already do. The task now is to fund and implement what has been adopted.

Africa is not short of agricultural finance. Governments spend heavily on input subsidies; the African Development Bank has mobilised tens of billions of dollars; the World Bank plans to raise its agribusiness and agri-finance commitments to USD 9 billion a year; and climate funds, foundations and bilateral donors contribute hundreds of millions more. Meanwhile, the CAADP Strategy itself commits governments to repurpose producer support towards higher-value outcomes.

The report therefore asks seven institutions to redirect a defined and rising share of existing commitments towards farmer-managed seed systems, diversified agroecological farming, biological soil fertility, public research and extension, local processing and territorial markets. The proposal is not simply to spend more, but to **move resources behind a transition that African institutions have already begun to endorse**. The opportunity is immediate: Kampala CAADP Strategy must be translated into national plans by 2028, and its indicators are being determined now.

- **African governments:** redirect at least 10 per cent of existing subsidy budgets by 2028, 25 per cent by 2030 and one-third by 2035 towards farmer seed systems, public extension and agroecology.
- **The Gates Foundation:** condition future funding on independent evaluation and secure the release of AGRA's withheld monitoring data.
- **Germany:** protect and expand its agroecology commitments and redirect former AGRA support towards agroecology and public extension.
- **The Mastercard Foundation:** ensure its youth programme demonstrably reaches women and poorer farmers, with independent assessment of who benefits.
- **The Green Climate Fund:** prioritise genuine adaptation and prevent input-intensive programmes from receiving an adaptation label without evidence of resilience.
- **The African Development Bank:** disclose what its climate-labelled agricultural finance supports and redirect a rising share towards diversified, low-input agroecological systems.
- **The World Bank Group:** devote a defined and increasing share of its planned agricultural finance to diversified and agroecological systems, with published outcome indicators.

Twenty years is long enough to judge the Green Revolution model by its results. The evidence does not justify another decade of the same priorities at greater scale. African farmers and organisations are already rebuilding soils, strengthening resilience, protecting seed diversity and creating local markets; increasingly, African governments and regional institutions are putting agroecology into policy as well. The next step is to move public money behind that transition. The next ten years should fund what is working rather than repeat what failed.

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Fresh maize cobs
growing on a tall
green stalk in an
outdoor field.

Photo credit:
Pixabay

Introduction

In 2006 the Gates and Rockefeller foundations launched the Alliance for a Green Revolution in Africa with USD 150 million and Kofi Annan as its first board chair. AGRA promised to double yields and incomes for thirty million smallholder households and halve food insecurity by 2020. The targets were not met and later disappeared from its website.

In September 2022 the organisation replaced its full name with the acronym AGRA and repositioned itself as a food-systems facilitator. The rebrand has allowed it to distance itself from the original targets, while improved seed, synthetic fertiliser and policy reform remain central to its approach [4].

This report is published in AGRA's twentieth year and launches at the Africa Food Systems Forum in Kigali, the event AGRA founded as the African Green Revolution Forum. Its subject, however, is larger than one organisation.

The Green Revolution in Africa has been financed mainly by African governments through fertiliser and seed subsidy programmes, and it now operates at far greater scale through the African Development Bank and the World Bank Group.

In January 2025 many of its core assumptions were carried into the Kampala CAADP Declaration for a further decade. The central argument of this report is therefore not simply that AGRA missed its targets. It is that the model failed on the terms its promoters set, then migrated into government subsidies, development-bank finance and continental policy through 2035.

The report tests that argument against productivity, land use, hunger and income outcomes, then examines what a different allocation of existing public and development finance could support.

The model failed on the terms its promoters set, then migrated into government subsidies, development-bank finance and continental policy through 2035.

How this report is built

The evidence comes largely from the institutions concerned and can be checked against their own documents. It is organised around four sources.

1

Donor evaluations: The first phase of the partnership was assessed in an evaluation commissioned by AGRA's own donors and conducted by Mathematica [1]. AGRA described the evaluation as independent, evidence-based and data-driven [8].

2

AGRA's institutional record: AGRA's own record: its policy briefs [16], its Life of Strategy report [33], its tax filings [5], and the public statements of its outgoing and incoming presidents [4][12].

3

National FAO data: The national data held by the FAO, analysed independently by Timothy Wise at Tufts University across the full eighteen years [32], after AGRA declined to release its own monitoring and evaluation data to independent researchers.

4

African Union governance documents: The African Union's own record: the Kampala Declaration, the Comprehensive Africa Agriculture Development Programme (CAADP) Strategy and Action Plan, and the fifth Biennial Review [3][40][41][53].

Taken together, these sources do not constitute a commissioned twenty-year evaluation, because none of the organisations that financed the model has undertaken one. That absence is itself significant. The Tufts assessment is the closest available review, assembled from public data after AGRA declined to release its own monitoring information.

What follows

Part I assesses productivity, land use, hunger and incomes. Part II compares the record with Senegal. Parts III and IV trace AGRA's changing role and the financing of the wider model. Part V examines its continuation under Kampala. Parts VI and VII set out the evidence for an alternative and the institutional changes needed to fund it.

Throughout this report, the thirteen focus countries are those AGRA prioritised: Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Tanzania, Uganda and Zambia.



A woman bends down to
tend crops in a lush
green field under a
cloudy sky.

Photo credit: Unsplash

Part I. The verdict on the Green Revolution

Yields grew more slowly than before the model arrived. Production rose by clearing land, not by raising yields.

Eighteen years of national data now allow the Green Revolution model to be judged by what it produced. During this period, fertiliser use more than doubled and cultivated land expanded by 46 per cent. Yet staple-yield growth did not accelerate, several important food crops declined, and hunger rose sharply.

These results matter independently of AGRA's original targets. Even against a more modest test, whether two decades of investment produced faster productivity growth, greater resilience or better food security, the model failed.

AGRA nevertheless made explicit commitments when it was launched in 2006: to double yields and incomes for thirty million smallholder households and halve hunger by 2020. African governments made related commitments at Maputo and Malabo. None was achieved.

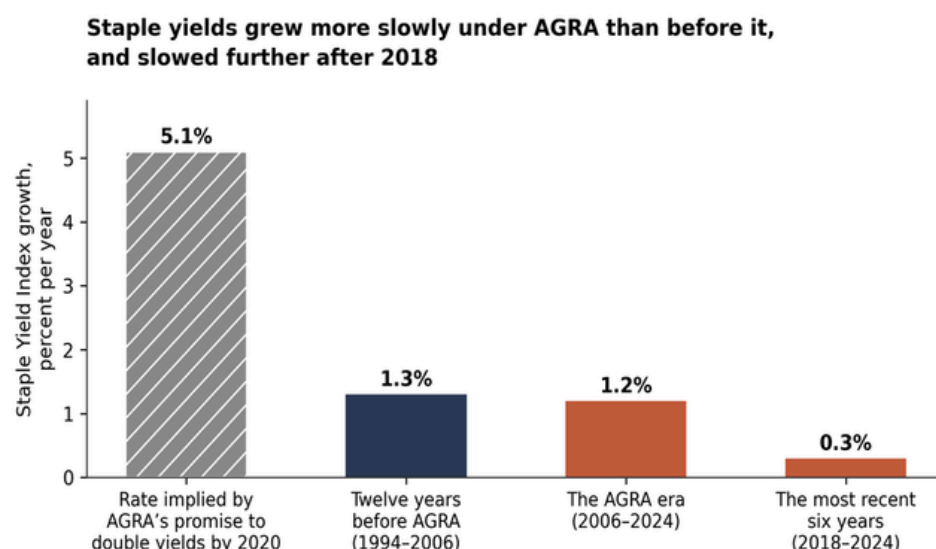
Yields grew more slowly than before the model arrived.

Maize, the crop AGRA backed most heavily, grew 40 per cent in eighteen years (1.9 per cent a year) against a goal of doubling. Sorghum grew 3 per cent; millet fell 17 per cent; roots and tubers fell 10 per cent; and groundnuts fell 11 per cent [32]. Across all staples, the Staple Yield Index grew 1.2 per cent a year, below the 1.3 per cent achieved by the same countries in the twelve years before AGRA [32].

Fertiliser use more than doubled to 26 kilograms per hectare, but the countries using most did not gain most: Zambia reached 71 kilograms per hectare while maize yields rose only 14 per cent over the full period [32].

Continuous synthetic fertiliser without organic-matter replenishment is also associated with soil acidification and declining returns [62]. Because AGRA declined to release its monitoring data and published less after 2020, this assessment rests on the public record [32].

Figure 1. Annual growth of the Staple Yield Index across the thirteen focus countries, against the rate the promise required.

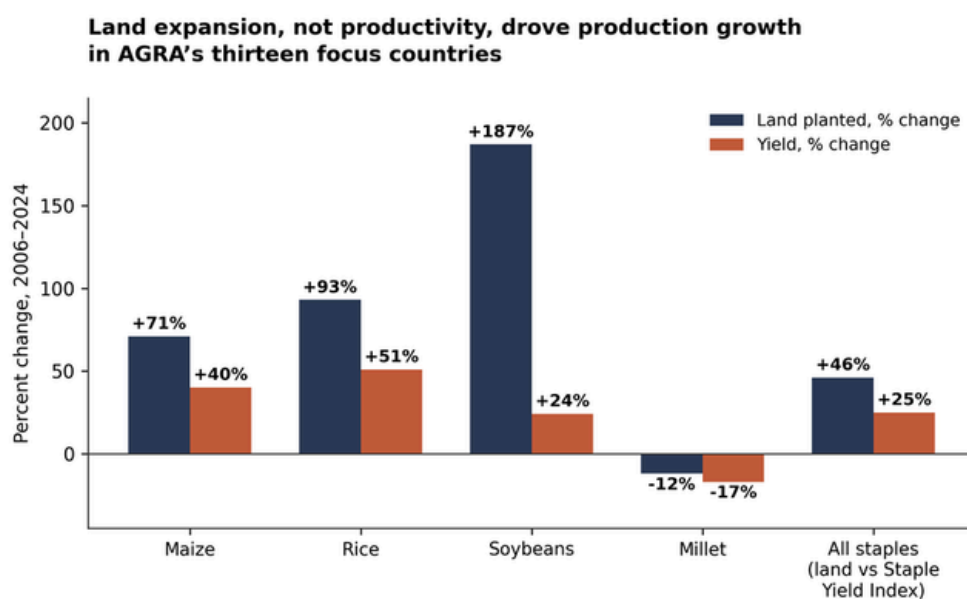


Source: FAOSTAT data analysed in Wise (2026). The promise bar shows the compound annual growth required to double yields between 2006 and 2020.

Production rose by clearing land, not by raising yields.

Cropped land expanded 46 per cent between 2006 and 2024. Maize area grew 71 per cent against 40 per cent yield growth; rice area nearly doubled; and cassava area more than doubled while cassava yields fell 21 per cent [32]. Meanwhile, millet and sorghum, both more drought-tolerant than maize, fell from 26 per cent of cropland to 16 per cent, and millet production dropped 27 per cent [32]. AGRA's former president acknowledged that production growth has relied on bringing degraded land into cultivation [4], while the AU's 2026–2035 Strategy identifies land expansion and degradation as continuing problems [41].

Figure 2. Production, area and yield growth by crop, 2006–2024: for nearly every crop the model promoted, area growth outpaced yield growth. [Data from Wise (2026) [32].]



Source: FAOSTAT data analysed in Wise (2026), Tufts University GDAE working paper.

Narrower cropping systems carry a biodiversity cost the model does not price in.

A 2026 UK government national security assessment finds that food production is "the most significant cause of terrestrial biodiversity loss" worldwide, and that this loss is now itself among the biggest medium-to-long-term threats to food production, acting through depleted soils, declining pollinators, and more volatile drought and flood conditions [83]. Vertebrate populations have fallen by an average of 68 per cent since 1970, and freshwater species by 84 per cent over the same period [83]. The shift toward maize monoculture and away from millet and sorghum narrows the on-farm diversity that supports pollinators and soil organisms, compounding the acidification already associated with continuous synthetic fertiliser use [62]. The loss is not confined to the crops themselves; it extends to the ecological systems the next decade of yields will depend on.

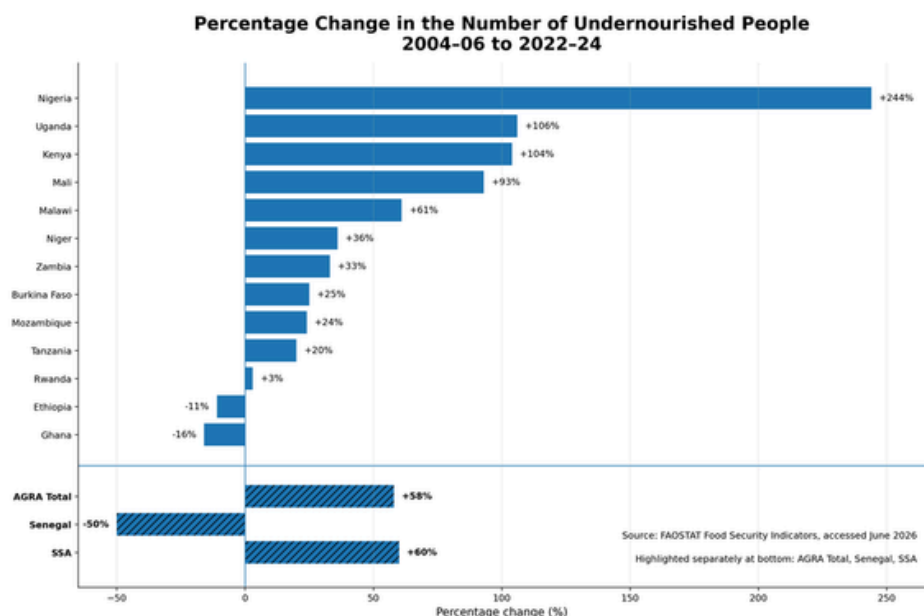
The promised fall in hunger did not come.

Across the thirteen countries, the number of chronically undernourished people rose from 94.6 million in 2004–06 to 149.6 million in 2022–24, an increase of 58 per cent [32]. Across sub-Saharan Africa as a whole, the increase was 60 per cent. In aggregate, the countries prioritised for Green Revolution investment performed no better than the wider region.

Only Ethiopia and Ghana reduced the number of undernourished people. Nigeria accounted for more than half of the increase; Kenya more than doubled to over twenty million; and hunger in Malawi rose by 61 per cent despite the strongest staple-yield growth in the group. The evidence does not support the assumed progression from commercial inputs to higher yields to lower hunger.

AGRA had originally committed to halving hunger by 2020. The outcome was not simply short of that target: hunger moved sharply in the opposite direction, including for rural food producers [63].

Figure 3. Change in the number of chronically undernourished people by country, 2006–2024, with Senegal for comparison. [Data from Wise (2026) [32].]



Incomes cannot be shown, and the gaps are themselves evidence.

Rural poverty data is patchy, and where it exists poverty fell faster before the model than during it [32]. AGRA conceded the point: reporting on PIATA (Partnership for Inclusive Agricultural Transformation in Africa) in 2022 it said it could not demonstrate causality between its work and farmer incomes, in the same document that claimed 37 million farmers reached [33]. Reaching a farmer is an activity; raising that farmer's income is an outcome, and it is the outcome AGRA could not show. There is no baseline for improved-seed adoption before the model, AGRA's data is withheld, and the AU's own Biennial Review notes that missing data scored as zero masks the true gaps [53].

The costs fell unevenly.

In northern Ghana, mechanised ploughing enlarged farms while women's tasks stayed manual and cleared the shea and dawadawa trees women rely on for income [39]. In Burkina Faso, gender appeared in project documents but not in design [39]. Consolidation competes for land and pushes the smallest producers off it.

Independent evidence converges.

A 2025 systematic review screened 364 studies and found, among 38 empirical assessments, twenty-three negative outcomes against eleven positive ones. It judged the model unpromising as a basis for a sustainable food future and noted that a third of the studies were funded by institutions supporting the model [36]. The Mathematica evaluation, described by AGRA as independent [8], likewise found the headline goal unmet, weak evidence of transformation, and gains concentrated among younger, wealthier and mostly male farmers [1]. The convergence of donor evaluation, national data and peer-reviewed literature explains why the continuing policy framework now requires scrutiny.

Part II. Senegal: what a different path produced

Over the eighteen years in which hunger rose 58 per cent across the thirteen focus countries, it fell by half in Senegal, next door and outside the model.

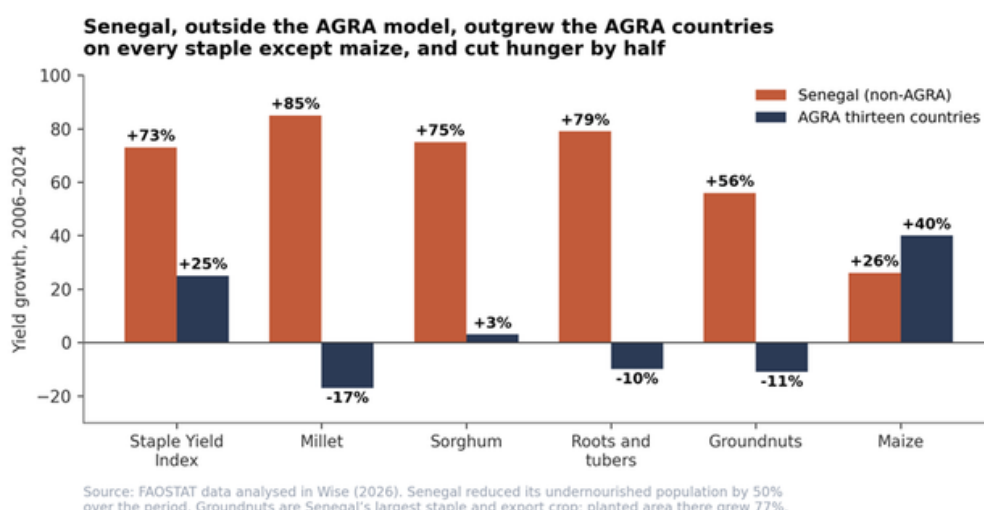
Senegal brought undernourishment below 5 per cent, meeting the CAADP target the focus countries never approached and sitting far below the continental average of around 21 per cent; among the thirteen, only Ghana came close, at 6.5 [32]. Senegal was not an AGRA focus country, and input-led intensification of a priority staple has never organised its agriculture. What that does and does not show is the subject of this part.

Senegal's gains were broad, and led by the crops the model displaced. Millet yields rose 85 per cent, sorghum 75 per cent, and roots and tubers 79 per cent. Overall, Senegal's Staple Yield Index grew 73 per cent, compared with 25 per cent across the AGRA countries [32].

Millet and groundnuts retained or gained land rather than being displaced by maize: groundnut area rose 77 per cent and yields 56 per cent, while groundnut yields across the AGRA countries fell 11 per cent [32]. Senegal achieved this with about 14 kilograms of fertiliser per hectare, half the AGRA-country average and less than a third of the Abuja target [32][45]. By contrast, Zambia reached 71 kilograms per hectare but increased maize yields by only 14 per cent, while Malawi's strong staple-yield growth coincided with a 61 per cent rise in hunger [32].

Over the eighteen years in which hunger rose 58 per cent across the thirteen focus countries, it fell by half in Senegal, next door and outside the model.

Figure 4. Yield growth 2006–2024, Senegal against the AGRA thirteen countries.



Senegal is not an anti-Green-Revolution case. In Senegal's groundnut basin the state has run commercial monocropping for export for decades, with improved seed, subsidised fertiliser and mechanisation, and the basin carries the costs: declining fertility, lost tree cover, indebtedness, dietary narrowing. Two things separate it from what AGRA promotes.

Groundnut is a legume that fixes its own nitrogen, so it does not create the maize monoculture's dependence on continuous external nitrogen. And rotation through millet and sorghum persisted alongside it. The intensification was built around a soil-building crop and kept the traditional cereals in the ground.

Senegal supported its farmers heavily, but spent differently. Senegal runs one of West Africa's larger subsidy programmes. By 2018 it absorbed around a third of the agriculture budget; in 2020/21, roughly half of about USD 100 million went to seed and 40 per cent to fertiliser [45]. Support covered groundnut, cowpea, rice and maize, including crops farmers already grew. Beyond the groundnut basin, policy remained plural, encompassing millet and sorghum, livestock, horticulture, fisheries and, more recently, agroecology [61]. Unlike AGRA's narrower productivity theory, Senegal's approach also addressed stability, access, nutrition and farmer agency [61].

Senegalese farmers have standing in policy, and civil society drives agroecology. Since 2004, agriculture has operated under a framework law drafted with rural organisations. It treats the family farm as the basis for modernisation and recognises farmers' role in making and evaluating policy [43]. Agroecology has also been driven from below: after a 2019 presidential declaration, farmer, women's, NGO and research organisations formed DyTAES, now a coalition of more than ninety bodies [59][60]. This cannot explain most of the earlier gains, and peer-reviewed research describes state support as uneven while conventional projects continue [44].

What Senegal is not. It extensified heavily, expanding cropland 74 per cent, and it remains a major food importer, around USD 1.9 billion a year [32][47]. Its model is contested as two-speed, industrial agriculture beside smallholders, with land conflict in the river delta [44]. No national agroecological transformation has happened. The transition is uneven.

Senegal is not a template, and did not get its results by refusing the model's tools. What the record supports is smaller and still substantial: a country that ran the same years, region, pandemic and price spike, with comparable public investment but without input-led intensification as its organising strategy, grew staple yields three times as fast, kept its traditional crops, and halved hunger while Kenya's doubled [32].

Senegal differs from the AGRA focus countries in more than farm policy: a coastal fishery and horticulture sector, high remittances and urbanisation, and freedom from the conflict that drove hunger in Mali, Niger and northern Mozambique. Any of these could have helped, and no national outcome has a single cause. This is a comparison between countries, not a controlled trial. What it shows is that the good outcomes did not need the input-led model.

The Senegal exception is being enrolled into the Green Revolution model. AGRA's seed programme now runs in Senegal; the African Development Bank's first emergency-food loan anywhere, EUR 121 million in 2022, funded certified seed and fertiliser for 850,000 farmers and 350,000 new hectares there [19]. In December 2025 the AfDB-backed Agropole Centre opened in the groundnut and millet basin [47], and in February 2026 the World Bank launched the AgriConnect Senegal Compact around grains, horticulture and livestock, aligned to Senegal's Food Sovereignty Strategy [46]. Food sovereignty, the movement's language, is now the frame for an agro-industrial pipeline. Whether two decades of hunger reduction survive the next is the question this counter-example poses.



Cupping a young seedling
sprouting from rich soil in
an outdoor field.

Photo credit: Unsplash

Part III. What AGRA is and was

Where it did not change farming, it changed the rules of farming.

AGRA sits inside the model's story as one actor among many, and not the largest. It never funded a national subsidy programme and never matched the development banks' spending. Over twenty years it received well over USD 1.5 billion, about two-thirds from the Gates Foundation [5][8]; Malawi has spent more than that on inputs in a decade. What AGRA built, what it became, and how it changed over its last six years is the subject here, because the model's continuity runs through it.

AGRA 1.0: building the supply side, 2006–2016

The first decade built the machinery of input agriculture. Launched in 2006 with USD 150 million from Gates and Rockefeller and Kofi Annan as chair, AGRA assembled the pieces the model needed: a seeds programme, a soil-health programme funded with about USD 180 million [48], market and education work, and policy capacity. By its own account it trained 680 crop-science graduates, facilitated 562 new varieties, supported nearly 600,000 tonnes of seed, and capitalised a fertiliser-industry body with USD 25 million [8][33]. These were real achievements in building a supply side. What the decade's data showed is that a supply side alone did not deliver the promised gains in yields, incomes or food security.

AGRA 2.0: PIATA and the delivery network, 2017–2022

The second phase built the network that carries inputs the last mile, and it is what reached farmers. In 2017 the donors pooled funding into PIATA, coordinating Gates, Germany's KfW, Rockefeller, the UK's FCDO and USAID around seed, fertiliser, advice and policy. AGRA reports 42 policy reforms, USD 1.4 billion mobilised, 33,000 Village-Based Advisors and 9,000 agro-dealers, with 75 per cent of the farmers it reached adopting fertiliser and 48 per cent improved seed [33]. That network is AGRA's most tangible achievement, and the Mathematica evaluation found its structural flaw: in several countries it runs as a commission-based input-selling operation put in the place of public extension, which it cannot replace [1][51]. Public extension across the AGRA countries stayed at roughly one officer per thousand farming households throughout [51]. The funders' evaluation found AGRA missed its headline goal and the transformation evidence weak, valued its whole farmer-facing work at about USD 10 per smallholder over five years, and judged the network unsustainable without continued subsidy [1][8].

What AGRA sells: policy reform

Where it did not change farming, it changed the rules of farming. Mathematica called policy AGRA's consistent success, crediting 72 reforms across eleven countries in five years [1]; the Life of Strategy report says 42 [33], and the gap is unexplained. The method was direct placement of AGRA consultants and seconded staff inside ministries [1]. The evaluators name the consequence: AGRA's success incentivised governments to request more AGRA support rather than build their own capacity, and they found no evidence governments would run the next generation of programmes without it [1]. The content followed who was in the room: Nigeria's 2019 fertiliser-quality Act, plant-variety-protection laws to attract agribusiness, and Tanzania's 2015 accession to UPOV restricting farmers' saving and exchange of seed [15]. Civil-society consultation, the evaluators heard, typically came after programmes were already designed [1].

Zambia: from NAIP II to CATSP

The clearest recent case shows the AGRA policy method in one country. In 2021 Zambia began a second National Agriculture Investment Plan through a broad stakeholder process; ZAAB and others pressed to build on what had worked for smallholders, livestock, fisheries and nutrition [14]. That process was overtaken. By ACB and ZAAB's account, consultants sponsored by AGRA and the FAO introduced a new framework, the Comprehensive Agricultural Transformation Support Programme, with little consultation, reorienting the strategy to commercial maize, wheat and soybean supply chains and private aggregation [64]. AGRA's Zambia manager likened its role to the government's own programme unit; an embedded AGRA consultant led the drafting and, by ZAAB's account, was the only person able to explain it at validation [14]. Standing Agricultural Transformation Offices were set up inside government to align policy with the agenda [14]. The orientation was stated openly: in May 2023 the then permanent secretary suggested inefficient smallholders should leave farming for commercial operations [14]. ZAAB's Mutinta Nketani put the objection plainly, that an organisation which failed its own goals with its own model has "no authority... to guide policy." Zambia is one country, but member states must write the Kampala CAADP framework into national plans by 2028, so the level matters.

AGRA 3.0: the rebrand and after, 2022–present

The name and targets changed; the model remained. In September 2022 the organisation dropped 'Alliance for a Green Revolution in Africa' for the acronym AGRA, without a public explanation [9]. Agnes Kalibata later said the "Green Revolution ship has sailed", while continuing to support improved seed and selected fertilisers. The 2023–2027 strategy shifted from direct smallholder-productivity targets towards policy facilitation, convening and private-investment mobilisation. President Alice Ruhweza has described de-risking private capital and building trade corridors as central to the operating model [12][13]. AGRA is now primarily a policy adviser, implementer, convener and investment facilitator; the model it promoted is being carried at much greater scale by other institutions.



Who pays, and who benefits

AGRA's funding has become more fragmented. Gates remains the anchor, adding USD 200 million after the evaluation it co-funded found the headline goals unmet and retaining two board seats [9]. Rockefeller stopped funding core work, USAID exited in 2025, and Germany curtailed bilateral support [9][25][26]. Restricted programmes now include the Mastercard Foundation's USD 350 million youth initiative and the Green Climate Fund's USD 105 million post-harvest programme [27][28]. AGRA reported record revenue of about USD 127 million in 2024: roughly USD 34 million went to staff, USD 17 million to management, and USD 40 million was granted onward to African delivery organisations [5]. In Mozambique, the Mathematica evaluation identified fertiliser and hybrid-seed investment by Yara, Bayer and Klein Karoo among the clearest private-sector outcomes [1].

The balance sheet

AGRA's tax filings in USA show revenues rising sharply after its 2022 rebrand, from about USD 80 million that year to roughly USD 128 million in 2023 and USD 127 million in 2024. A USD 43 million surplus in 2023 nearly doubled its net assets, while spending rose to USD 115 million in 2024. Of that, USD 16.8 million went on management and general expenses and around USD 34 million on staff, compared with USD 40 million granted to African organisations for delivery. Compensation for officers and key employees quadrupled from USD 0.9 million in 2021 to USD 3.8 million in 2024, with the outgoing president receiving USD 368,784 in her final year. Contributions provide about 96 per cent of AGRA's revenue.

Editing the public record

In January 2026 the Bureau of Investigative Journalism documented a coordinated effort to strip critical material about AGRA from its Wikipedia page. The changes were made by a network of twenty-six sock puppet accounts that Wikipedia later banned on suspicion of undisclosed paid editing, and which the Bureau linked to Web3 Consulting, a subcontractor used by the London public relations firm Portland Communications. Both AGRA and the Gates Foundation are named as Portland clients [30].

The edits went to the heart of the record on AGRA's performance. One account altered the deadline for AGRA's founding goal of doubling the incomes of thirty million farmers, moving it from 2020 to 2021. A month later, a second account deleted the page's entire evaluation section and removed the citation to the Tufts University assessment showing that AGRA had missed its own targets [2], the same body of evidence on which this report's verdict rests. Wikipedia reverted the changes once the Bureau exposed them.

Asked to respond, AGRA confirmed that it had hired Portland but said it had "no knowledge of, nor any association with, Web3 Consulting", and that its policies prohibit breaching the terms of service of external platforms. The Gates Foundation did not respond to the Bureau's request for comment [30].



An african farmer in a
Scorching sunny day.

Photo Credit: [James Baltz](#)
on [Unsplash](#)

Part IV. Who pays for the Green Revolution

Twenty years of Green Revolution programming has been financed overwhelmingly by African governments, not by the Gates Foundation, which paid to design the model and its policy architecture, and not by AGRA, which never funded a subsidy programme. This is the part most accounts leave out.

African governments are the largest funders, and the programmes predate AGRA. Malawi has run an input subsidy programme since the late 1990s, Zambia since the early 2000s, both designed by governments for domestic food security, not by AGRA, which does not administer or pay for them [17]. AGRA's own June 2024 briefs put fertiliser-subsidy spending across eleven focus countries at about USD 35 million a year each between 2017 and 2022, from USD 72 million in Kenya down, at subsidy rates averaging 57 per cent [16]. Total programme costs run higher: Michigan State University estimates put peak-year costs at USD 180–239 million in Zambia and USD 152–275 million in Malawi, a quarter to three-quarters of the agricultural budget in each case [17]. Subsidies reached 60 per cent of Malawi's entire agricultural budget in 2022 [16]. Against that, AGRA spent USD 115 million across its whole organisation and all thirteen countries in 2024 [5]; Malawi alone spends more than twice that on one programme [17]. No institution publishes a continental total; estimates assembled from budgets run near a billion dollars a year across the focus countries [31]. The largest category of African agricultural spending is counted nowhere.

AGRA's own 2024 briefs present a severe critique of these subsidy programmes. They describe them as high-cost, fiscally unsustainable and liable to crowd out agricultural research and extension [16]. The briefs also document diversion of subsidised fertiliser in Malawi, elite capture in Tanzania, entrenched maize monoculture, and commissioned studies finding no significant effect on prices in Nigeria, labour in Ethiopia or net crop income in Kenya [16].

Farmers want the support fixed, not ended. A 2024–25 survey of 371 households across four Zambian districts found 91 per cent valuing access to inputs but 88 per cent dissatisfied overall, with inputs arriving too late to plant, in inadequate quantities, tied to a rigid e-voucher and locked to maize [38]. Their recommendation was timely, adequate, flexible support that allows other crops, including traditional varieties [38].

The philanthropic contribution is modest in delivery, decisive in design. AGRA has received well over USD 1.5 billion since 2006, almost all from a few foundations and agencies with Gates the anchor [5][8]. Set against national subsidy budgets, that is a small share of what delivers inputs to farmers. Its share of designing the model, building its evidence base and shaping its policy framework is not. The money that bought the seed and fertiliser came from African treasuries.

The model now runs at development-bank scale. Since 2016 the African Development Bank has pursued the same package, commercial seed, fertiliser and mechanisation, under Feed Africa [42].

The money that bought the seed and fertiliser came from African treasuries.

Its Technologies for African Agricultural Transformation (TAAT) programme reports reaching over 12 million farmers across 34 countries [18]; its USD 1.5 billion African Emergency Food Production Facility aimed at 20 million smallholders with certified seed and fertiliser [19]. The Dakar 2 summit in 2023 mobilised around USD 72 billion of pledges and 34 country compacts [22][42]. The AfDB is now the largest single financial driver of the input-and-productivity model on the continent.

The World Bank is preparing to operate at still greater scale. An IATP and AFSA analysis puts its African agricultural disbursements at nearly USD 3 billion a year in 2021–2024 [37]. AgriConnect, launched in October 2025, implements a pledge to double the Group’s agribusiness and agri-finance commitments from about USD 4.5 billion to USD 9 billion a year by 2030, while mobilising a further USD 5 billion annually from the private sector [65]. The Bank describes a division in which the IFC supplies capital and the Bank supports policy reform [37]. This resembles PIATA’s combination of finance, market development and policy influence, but at a scale AGRA never approached.

The multinationals are threaded through it. OCP Africa operates in at least a dozen focus countries with AfDB-backed blending plants [23]; Yara, named in AGRA’s Mozambique evaluation, expands advisory services [23]; the AU’s 2024 Fertilizer and Soil Health Summit adopted a roadmap to triple continental fertiliser use [14].

Taken together, the sums are substantial: national subsidy budgets in the hundreds of millions each year; USD 1.5 billion behind one AfDB facility and USD 72 billion in Feed Africa pledges; USD 9 billion a year planned by the World Bank; and well over USD 1.5 billion received by AGRA since 2006. African agriculture is not short of investment in this model. The central question is what those resources produced during a period when staple yields slowed, cropland expanded 46 per cent and hunger rose 58 per cent.

Part V. Rolled forward: the model to 2035

The African Union has now issued its own final scorecard for the Malabo period. Under Malabo, leaders promised to end hunger and halve poverty by 2025, with progress measured every two years. The number of countries judged on track fell from twenty in 2017 to four in 2019, one in 2021 and none in 2023 [3]. The fifth and final review, presented in February 2026, found that none of forty-five reporting states reached the overall benchmark and that the continent met none of its seven commitments [53]. Ending hunger scored 3.38 against a benchmark of 9.24. The AU concluded that a narrow focus on production was inadequate and that incremental gains were insufficient [53]. The review's data ends in 2024, and its treatment of missing data may understate some information gaps.

CAADP extends the model despite the evidence. In January 2025, African leaders adopted the Kampala Declaration and its 2026–2035 CAADP Strategy [40][41]. The new framework retains input intensification, improved seed, subsidy programmes, agro-industrialisation and private investment as central instruments, despite the weak results recorded under the preceding period.

It also moves the goals of ending hunger and halving poverty forward by another decade, without a substantive accounting of why the previous strategy failed to achieve them. The problem is therefore not merely that a deadline has changed. It is that the underlying diagnosis and investment model remain largely intact.

The financing objective recasts public spending as a distraction. Explaining why few countries meet the Maputo pledge of 10 per cent of spending on agriculture, the Strategy says the target distracted from the mechanisms needed to de-risk the sector and attract private investment [41]. What follows is a de-risking programme: blended finance, debt-for-climate swaps, diaspora bonds, an agrifood financing facility, and a private-sector-led advisory council [40][41]. The vocabulary is AGRA 3.0's; Ruhweza welcomed the same shift from donor funding to investment [12]. Climate finance is one channel this opens, and the model is already moving through it: the AfDB reported 54 per cent of its 2025 approvals, USD 5.9 billion, as climate finance [66], and AGRA's post-harvest programme is Green Climate Fund adaptation money [28]. The World Bank frames its own expansion the same way, presenting de-risking instruments and climate finance as sources, noting agriculture gets only about 4 per cent of climate finance globally [65]. The de-risking language of Kampala, of AGRA and of the two largest bank agendas has converged on one vocabulary.

The omissions reveal the framework's priorities. Kampala does not mention agroecology, food sovereignty or farmer-managed seed systems [40]. In the Strategy, agroecology appears twice as an appended phrase, food sovereignty once as an aspiration, and farmer seed systems once without a target or responsible institution. Agro-industrialisation, by contrast, heads a strategic objective with numerical commitments [41]. Governance follows the same pattern: the framework creates a private-sector-led advisory council but no equivalent farmer-led body, while farmers are treated mainly as adopters and civil society as advocates [40].

The Kampala
CAADP
Declaration
does not
mention
agroecology,
food
sovereignty or
farmer-
managed seed
systems.

AFSA's Million Belay, who participated in the 2024 drafting process, reported that civil-society proposals on agroecology and farmer seed systems were rejected [14].

Livestock is the model's newest frontier, financed the same way. The AgriConnect Senegal Compact folds livestock into the same grains-and-horticulture package that has defined input-led agriculture elsewhere on the continent [46], and the World Bank's wider role in African livestock projects is now large enough to warrant its own analysis [37]. The same logic that drove maize into monoculture is being extended to animals: capital-intensive, industrial operations that outcompete smallholders and pastoralists for market share and undercut their livelihoods. These systems depend on feeding soy and cereals to animals, which convert them into meat, milk and eggs at a fraction of the efficiency of growing the same crops for direct human consumption [84], and the feed itself is grown in the same monocultures, reliant on synthetic fertiliser and pesticide, that Part I found degrades soil and depletes water. Crowding animals at industrial density also raises the risk of disease emergence and spread [85], which is why such operations depend on routine antimicrobial use in feed and water, a practice the World Health Organisation identifies as a driver of antimicrobial resistance in the human food chain [86]. None of this sits easily beside the African Union's own Animal Welfare Strategy for Africa, which commits the continent to a leading role in good animal welfare practice [87], a commitment that the confinement, overcrowding and routine mutilation industrial systems require cuts directly against.

AGRA is the only philanthropy named in the plan. It appears three times as a support entity alongside the FAO, AfDB and World Bank [41]. It co-funded the data for the AU's Seed Sector index and co-organised the 2024 AU Fertilizer and Soil Health summit. Civil-society organisations seeking exhibition space at the summit were required to pay the AU exhibition fees directly into AGRA's bank account. Eight months later AGRA was a named delivery partner in a strategy adopted by heads of state.

The Action Plan nevertheless contains elements of an alternative: organic and biofertilisers, farmer-managed seed systems, indigenous genetic resources, farmer-led research and extension, farmer field schools and home-grown school feeding [41]. It also commits governments to repurpose producer support towards higher-value outcomes [41]. Yet these provisions lack targets, indicators and budget lines. The indicators are being written now, and states must integrate the Declaration into national plans by 2028 [3][40]. What is measured and funded will determine whether these commitments remain marginal or become operational.

A Maasai woman is shown in profile, facing left. She has short, grey hair and is wearing a headband made of multiple strands of red, white, yellow, and blue beads. A long, thin chain with a small metal disc hangs from the headband. She wears a large, circular collar made of blue beads with red and white patterns. Below the collar are several necklaces of red, white, and yellow beads, some with metal discs. She is wearing a patterned cloth wrap with large yellow and red floral designs on a white background. The background is a blurred outdoor setting with trees and a thatched roof.

A Maasai woman wearing traditional beaded jewelry and a patterned cloth wrap stands in an East African village.

Photo credit: Jan Canty –
Unsplash

Part VI. What works

A critique of the existing model is incomplete without a credible alternative. This part applies the same standard used in Part I—peer-reviewed studies, meta-analyses and institutional evaluations—to the evidence for diversified farming, biological soil fertility, whole-farm systems, climate resilience, enterprise, farmer-managed seed and public extension. It then examines how far these approaches are entering African policy, and whether the finance exists to take them to scale.

1. The evidence supports diversified agroecological systems across more than yield alone.

The UN Committee on World Food Security's High Level Panel of Experts finds that agroecological approaches can strengthen food security and nutrition through diversity, resource efficiency, soil health, resilience and greater producer agency [35]. A 2024 synthesis of scientific reviews and meta-analyses found food-security outcomes under agroecological systems generally comparable to, and sometimes better than, conventional alternatives, alongside benefits for soil health, pest regulation and ecosystem services [34]. A separate review of studies in low- and middle-income countries found positive food-security or nutrition outcomes in 78 per cent of cases, while a synthesis of 77 smallholder comparisons found higher yields in 63 per cent of cases reporting yield and improvements in several adaptation indicators in at least 70 per cent [36]. These findings do not show that every agroecological practice outperforms every conventional system. They show that diversification can sustain production while improving the resilience, affordability and ecological functions on which production depends.

2. Biological soil fertility reduces recurring input costs.

Millions of farmers already interplant nitrogen-fixing green-manure and cover crops. These plants suppress weeds, retain moisture, add food or forage and rebuild soil organic matter; East African lablab systems have raised maize yields substantially in the same fields [52]. The main inputs are seed, knowledge and labour rather than imported fertiliser. Unlike a recurring subsidy, the investment builds fertility within the farm. Locally produced biofertilisers extend the same principle. Across AFSA's Healthy Soil Healthy Food network, thousands of farmers are making bokashi, fermented liquid fertilisers, composts and microbial inoculants from manure, crop residues, organic waste and locally cultured microorganisms. These inputs rebuild organic matter and soil structure, stimulate biological activity and improve nutrient cycling, while reducing dependence on purchased synthetic fertiliser. Farmers report improved soil life, moisture retention and crop performance, with adoption strongest where ingredients are locally available and results are visible. The evidence is mainly from farmer-led trials, soil testing and documented field experience [54].

Together, green manures and locally made biofertilisers shift investment from repeatedly purchasing nutrients towards rebuilding the biological processes that make nutrients available within the farm.

None of this is hypothetical. African governments, regional bodies and county assemblies have drafted and in places enacted the agroecological alternative; what stands between policy and practice is money and political will.

3. Integrating livestock is part of the alternative, not a gap in it.

Part V describes livestock's arrival as the model's newest frontier. The alternative to industrial livestock production is not a food system without animals; it is livestock integrated into the diversified systems described throughout this part rather than separated into industrial units. Manure from farm animals is one of the main inputs behind the biological soil fertility described above, closing a nutrient loop that synthetic fertiliser cannot replicate, while animals in turn are fed on crop residues, grass and agroecological outputs such as catch and cover crops rather than on grain that could feed people directly [84]. Family livestock systems built on local breeds cost less to run than the imported hybrid poultry increasingly promoted across the continent, and carry a lower disease burden than the confined, high-density operations that concentrate the risk of pathogen emergence and drive routine antimicrobial use [84][85]. The African Union's own Animal Welfare Strategy for Africa commits the continent to leadership in good animal welfare practice [87]; integrated, pasture-based livestock is consistent with that commitment in a way that caged and crated confinement is not.

4. The alternative is a living, diversified whole-farm system.

Biofertilisers, green manures and compost work best not as isolated input substitutions but as parts of diversified farming systems that integrate crops, trees, livestock, water and soil management. AFSA members and the Agroecology Coalition document how this works in practice.

These publications rely largely on project monitoring and farmer testimony rather than controlled trials, so they are used here as illustrations, not as independent proof. Their common feature is integration: trees, water, crops, livestock, soil restoration and local markets are treated as one system rather than as separate input packages.

In Kenya, a PELUM project with 2,700 tea and coffee households combined farm-made inputs, livestock, agroforestry and food crops; an end-term survey of 150 households reported improved incomes for 73 per cent, and four county governments adopted agroecology policies [67]. In northern Tanzania, a project reaching almost 1,500 farmers (more than 70 per cent women) restored 220 hectares, planted over 100,000 trees and contributed to the country's 2023 organic-agriculture strategy [68]. Other AFSA cases report income, food-security, resilience and enterprise gains [56][57]. These outcomes are partly self-reported, but they show that diversified systems are already being implemented at meaningful scale.

5. Diversification builds resilience to climate shocks.

Agroecological farms spread risk across crops, livestock and trees instead of depending on a single crop and a narrow package of purchased inputs. Diverse and locally adapted seed, ground cover, organic matter and agroforestry improve water retention, protect soils and give farmers more options when rainfall, pests or markets fail. Resilience is also social: after Cyclone Idai in Zimbabwe, farmer networks exchanged local seed and knowledge to restore production.

Agroecology cannot eliminate climate shocks, but it can reduce dependence on volatile input markets and strengthen farmers' capacity to withstand, adapt to and recover from them.

This resilience case has a mirror in the ecological evidence: the same narrowing of cropping systems documented in Part I is itself a driver of biodiversity loss, which independent assessments now rank alongside climate change as a direct threat to future food production [83].

6. Agroecology generates enterprises and markets that retain value locally.

AFSA's documentation of fifteen African enterprises shows farmers and entrepreneurs building businesses around biofertilisers, indigenous grains, honey, herbal products, organic produce, livestock and value-added foods. They process and brand products, use digital marketing, recycle farm wastes and create territorial markets that connect producers more directly with consumers. In doing so, they create demand for indigenous and agroecological foods rather than merely supplying established markets.

Individual cases demonstrate real commercial potential: a Rwandan closed-loop livestock and fertiliser enterprise increased revenue fivefold in two years and employed more than twenty people, while a Ugandan organic-fertiliser business expanded production from 500 to 4,000 litres between 2023 and 2025, generating gross sales of up to UGX 48 million [55].

The common obstacles of these cases, scarce finance, costly certification, inadequate machinery and processing infrastructure, cheap conventional competition and weak market support, show that agroecological enterprise does not lack initiative so much as the institutional backing routinely extended to industrial agriculture.

7. Farmer-managed seed systems protect diversity and reduce costs.

Farmer-managed seed systems supply most of what African smallholders plant, usually at far lower cost than commercial seed chains. Laws granting breeders exclusive rights, including Tanzania's 2015 accession to UPOV, can restrict the saving and exchange on which those systems depend [15].

AFSA's CROPS4HD studies across five districts of Tanzania document farmers keeping their own varieties: Karatu alone holds over fifty bean and fifteen maize landraces across eight community seed banks, with 856 farmers trained and 2.3 tonnes of seed exchanged in one project [69]. A Kilimo Endelevu study found 97 per cent of the maize landraces it assessed more pest-resistant and 85 per cent drought-tolerant, and a 2021 analysis found local maize several times richer in iron, zinc and beta-carotene than an improved comparator [69]. The law runs against it: the Seed Act of 2003 does not recognise the uncertified seed that is over 70 per cent of what family farmers plant, and classes farmers' varieties as grain, so their sale sits under threat of criminalisation [69]. Even a serving ministry official conceded in 2022 that the drive for high-yielding varieties was pushing prized local rice towards extinction [69].

Niger points the same way: in Dosso, farmers across seven crops keep their landraces over the improved seed the national policy promotes, often at a higher market price, while AFSA's 2023 policy note documents a seed policy built around improved varieties that restricts exchange [70][71].

Journalists reporting from fourteen countries found the same holding across the continent, from Ethiopia's community seed banks to Cote d'Ivoire's 80 per cent farmer-saved seed [58].

8. Public and farmer-led extension provides the delivery system.

Kenya's public service runs at about one officer per 1,175 farming households, barely changed across the AGRA period, while AGRA's 33,000 Village-Based Advisors are a private network tied to the input trade and counted outside it [51] [33]. Mathematica's Ethiopia finding is the point: working through the public system produced AGRA's strongest yield result [1]. Farmer field schools extend that public capacity, and are already committed to in the Action Plan, without targets or funding [41].

9. Agroecology is moving from practice into policy.

From continental frameworks down to the county assembly, agroecology has entered Africa's official agricultural policy over the past six years, and in a few places it now carries the force of law.

At continental level, agroecology is named in the CAADP Strategy and Action Plan 2026–2035, the technical framework adopted at the African Union's Kampala Summit in January 2025. The Strategy lists agroecology-based adaptation among its resilience measures and retains farmer-managed seed systems and climate-resilient indigenous seeds in its production objective [41]. These references are modest, set against a framework built mainly around input systems, biotechnology and trade, but agroecology is now named in the continent's central agricultural strategy.

The clearest movement is regional. Since 2018 ECOWAS has run an Agroecology Programme through its Regional Agency for Agriculture and Food, funded by the French development agency and the European Union at around seventeen million euros and now covering all fifteen member states [73]. East Africa has gone as far as draft law: the East African Legislative Assembly recognised agroecology as a strategic priority in November 2024, urged member states to promote it in July 2025, and now has an EAC Agroecology Bill, 2026 before it, intended to give agroecological farming a common legal basis across the bloc [74]. AFSA sits in the coalition behind that bill [75].

Nationally, the pattern is a wave of strategies. Kenya launched its National Agroecology Strategy for Food System Transformation (2024–2033) in November 2024, with an estimated budget of 26.8 billion shillings [76]. Tanzania signed its National Ecological Organic Agriculture Strategy (2023–2030) a year earlier, and that document goes further in substance, proposing regulatory protection for farmer-managed seeds, support for locally produced bio-inputs, peer-based certification in place of costly third-party schemes, and a requirement for ecological produce in public canteens [77]. By early 2026, national agroecology strategies or laws had been adopted in Benin, Burkina Faso, Ethiopia, Kenya, Tanzania and Tunisia, with Malawi, South Africa, Uganda, Zambia and Zimbabwe developing their own [78].

The firmest commitments are sub-national. Murang'a County in Kenya enacted the Murang'a County Agroecology Development Act in 2022 alongside a ten-year policy, becoming the first county in Kenya to give agroecology the force of law [79]. Vihiga and Makueni have since passed county agroecology policies, and several more counties, among them Nakuru, West Pokot and Kiambu, have developed frameworks while others draft theirs [80]. Much of this work has been driven by farmer organisations and civil society, though the consultations behind Vihiga's policy were facilitated in part by the Food and Land Use Coalition together with AGRA [81].

The distance between adoption and delivery remains the honest qualifier. Analysts tracking Kenya's strategy note that, despite the growing number of policies, evidence of their effect in the field is still thin, and farmer networks warn that counties must move from writing policies to funding and implementing them [82]. The frameworks now exist, from the CAADP Strategy down to the county Act; the task of the coming decade is to resource and implement them.

10. The finance is already available.

Governments spend heavily on subsidies that AGRA's own briefs call unsustainable [16]. The AfDB has mobilised tens of billions, the World Bank plans USD 9 billion a year, and climate funds and bilateral donors add hundreds of millions more. The issue is not the absence of finance but its allocation. The CAADP Strategy already commits states to repurpose producer support towards higher-value outcomes [41]. Part VII gives that commitment measurable targets.

None of this is hypothetical. African governments, regional bodies and county assemblies have drafted and in places enacted the agroecological alternative; what stands between policy and practice is money and political will. The asks that follow are addressed to the institutions with the means to close that gap.



A line of women works together in a flooded paddy field to plant young green rice shoots. P

hoto credit: Deepak Kumar -- Unsplash

Part VII. What needs to change

The proposal is not simply to spend more, but to spend differently and publish the outcomes.

This report addresses seven institutions that fund and shape African agriculture. It makes one request of each: redirect a defined and rising share of existing commitments towards farmer-managed seed systems, public research and extension, and diversified, low-input farming. The proposal is not simply to spend more, but to spend differently and publish the outcomes. The timing is immediate: Kampala took effect on 1 January 2026, national plans are due by 2028, and the first review will report that year.

African governments

Governments are the largest funders, spending on the order of USD 1 billion a year across the focus countries on subsidies AGRA's own briefs call fiscally unsustainable and a drain on research and extension [16][31]. The imbalance is documented: Zambia's programme has absorbed 72 to 75 per cent of the national agricultural budget [64]. The CAADP Strategy already commits states to repurpose producer support towards higher-value outcomes [41]; the ask is to give that a number. As they write Kampala into national plans by 2028, governments should set a rising share of existing subsidy budgets for redirection to farmer seed systems, public extension and agroecology, at least 10 per cent by 2028, 25 by 2030 and a third by 2035, tracked by a new CAADP indicator. This restores a balance one budget line has distorted; it does not end input support.

The Gates Foundation

Gates added USD 200 million to AGRA's current strategy after the evaluation it co-funded found the headline goals unmet, and holds two board seats [9]. It should condition continued agricultural funding on independent evaluation of outcomes, and use its board position to release the monitoring data AGRA has withheld since 2020.

Germany

Germany curtailed its bilateral support for AGRA, and is already committed to the alternative: it joined the Agroecology Coalition in 2023 and has raised agroecology commitments by around EUR 800 million since 2014 [26][72]. As it consolidates a shrinking budget, it should protect those commitments, channel the support that once backed the input model towards agroecology and public extension in the same countries, and carry its evidence-based scepticism into the Green Climate Fund and the development banks.



The Mastercard Foundation

The Foundation's USD 350 million youth programme is built on gender and inclusion goals [27] that sit in tension with AGRA's own finding that its benefits went mainly to younger, male, wealthier farmers [1]. It should direct a defined share to approaches that demonstrably reach women and the poorest, and commission independent evaluation of who benefits.

The Green Climate Fund

The Fund's USD 105 million RE-GAIN programme treats post-harvest loss reduction as adaptation [28]. As bilateral funding for the input model declines, climate finance is becoming an increasingly important channel. The Fund should apply clear adaptation criteria to agricultural programmes, prioritise diversified and agroecological systems, and prevent input-intensive projects from receiving an adaptation label without evidence of resilience benefits.

The African Development Bank

The Bank has mobilised tens of billions behind input- and productivity-led programmes [18][19] and reported 54 per cent of its 2025 approvals (USD 5.9 billion) as climate finance [66]. It should disclose how much of that finance supports input-intensive agriculture, redirect a rising share towards diversified, agroecological, low-input systems, apply rigorous adaptation criteria, and publish outcome indicators for agricultural lending.

The World Bank Group

The Bank has pledged to double its own agribusiness and agri-finance commitments to USD 9 billion a year by 2030, plus USD 5 billion mobilised from the private sector, through AgriConnect [37][65]. It should direct a defined and increasing share to agroecological and diversified systems rather than the input pathway, and publish outcome indicators allowing independent assessment of what it produces for smallholders.

The evidence is in. The next ten years should not repeat the last twenty.

Conclusion

Twenty years is long enough to judge the Green Revolution model by its results.

Across AGRA's thirteen focus countries, fertiliser use more than doubled and cultivated land expanded by 46 per cent. African governments devoted billions of dollars to input subsidies, while foundations and development agencies financed seed systems, agro-dealer networks, policy reform and private investment.

Yet staple-yield growth did not accelerate. It was marginally slower than in the twelve years before AGRA. Production growth relied heavily on bringing more land into cultivation. Millet and sorghum lost a large share of cropped area. The number of undernourished people rose by 58 per cent, almost matching the increase across sub-Saharan Africa as a whole.

These findings do not mean that every improved seed, fertiliser application or individual programme failed. Nor do they mean farmers should be denied useful inputs. They show that input-led intensification, treated as the organising model for African agricultural transformation, did not deliver greater productivity, resilience or food security.

AGRA's unfulfilled founding targets are one measure of that failure, but not the only one. Even against basic expectations of a heavily financed development strategy – faster yield growth, more efficient land use, improved diets and lower hunger – the record is poor.

Nevertheless, the approach is being extended through the Kampala CAADP framework, national subsidy programmes and development-bank finance to 2035. There is no evidentiary justification for another decade of the same priorities at greater scale.

The alternative does not require abandoning public support to farmers. It requires redirecting that support: towards farmer-managed seed systems, diversified production, biological soil fertility, public and farmer-led extension, and agroecological approaches that reduce dependence on imported inputs.

Africa is not short of agricultural finance. The question is whether the next decade will continue financing a model that has failed to transform farming and reduce hunger, or invest in approaches already rebuilding soils, strengthening resilience and improving farmer autonomy.

The evidence is in. The next ten years should not repeat the last twenty.

References

1. Mathematica (2021), Partnership for Inclusive Agricultural Transformation in Africa: Final Evaluation, Volume I. Commissioned by the PIATA partners; released by AGRA, 28 February 2022. https://usrtk.org/wp-content/uploads/2022/03/PIATA_Evaluation_AGRA.pdf
2. Wise, T. (2020), “Failing Africa’s Farmers: An Impact Assessment of the Alliance for a Green Revolution in Africa,” Tufts University Global Development and Environment Institute, Working Paper 20-01. <https://sites.tufts.edu/gdae/>
3. Tefera, W., Makombe, T., Guthiga, P., and Collins, J. (2025), “Tracking Key CAADP Indicators and Implementation Processes,” Chapter 18 in the ReSAKSS Annual Trends and Outlook Report. <https://www.resakss.org/>
4. Karas, T. (2025), “Beyond the Green Revolution: How AGRA evolved under Agnes Kalibata,” Devex, 26 February 2025. <https://www.devex.com/news/beyond-the-green-revolution-how-agra-evolved-under-agnes-kalibata-109499>
5. AGRA Forms 990 for fiscal years 2021–2024 (EIN 98-0513530), retrieved from ProPublica Nonprofit Explorer. Figures extracted directly from the filings and cross-checked between consecutive years. <https://projects.propublica.org/nonprofits/organizations/980513530>
6. World Bank, African Development Bank and AGRA (2021), Design and Delivery Mechanisms of E-Voucher Schemes in Agriculture in Sub-Saharan Africa.
7. Mkindi, Abdallah Ramadhani, et al. False Promises: The Alliance for a Green Revolution in Africa (AGRA). Rosa Luxemburg Stiftung, Biba, Bread for the World, FIAN Germany, Forum on Environment and Development, INKOTA-netzwerk, IRPAD, PELUM Zambia, Tabio, and TOAM, July 2020. Rosa Luxemburg Stiftung, www.rosalux.de/en/publication/id/42635/false-promises-the-alliance-for-a-green-revolution-in-africa-agra.
8. AGRA (2022), Independent Evaluation Management Response, February 2022. https://usrtk.org/wp-content/uploads/2022/03/AGRA-management-response-to-Mathematica-Evaluation_2.pdf
9. Wise, T. (2022), “AGRA Retreats from its Own ‘Green Revolution’,” Food Tank / IATP, 26 October 2022. <https://foodtank.com/news/2022/10/agra-retreats-from-its-owngreen-revolution/>
10. Pitt, D. / Associated Press (2022), “Gates-funded ‘green revolution’ in Africa has failed, critics say,” 8 September 2022. <https://apnews.com/>
11. Alliance for Food Sovereignty in Africa (2022), statement of 25 October 2022, reported by Nyirongo, M., 31 October 2022. <https://www.afsafrica.org/>
12. Alice Ruhweza, president of AGRA, interviewed by Jesse Era Magako on “The Food Chain” at the West Africa Rice Investment Roundtable, Accra, 9 June 2026.
13. Mersie, A. (2025), “Alice Ruhweza’s vision for AGRA and African agriculture,” Devex, 13 August 2025; AGRA appointment announcement, 10 January 2025; Ruhweza keynote at AFSF Dakar, 31 August 2025. <https://www.devex.com/>

-
14. AFSA (2024), Challenging the Green Revolution. <https://afsafrica.org/wp-content/uploads/2025/09/challenging-the-green-revolution-en-final.pdf>
 15. AGRA (2019), “Seed legislation: Nigeria takes steps to secure the legacy of plant breeders”; AGRA (2019), “Nigeria enacts a fertiliser control law, and AGRA is proud for being part of the process.” <https://agra.org/>
 16. AGRA (2024), Fertilizer Subsidy Programme Policy Briefs #1–#4, June 2024 (Scale and Impacts; Strategic Priorities; Design and Delivery; Policy and Regulatory Frameworks), covering 11 AGRA focus countries. <https://agra.org/>
 17. Jayne, T.S., Mason, N., Burke, W., Ariga, J. (2017), “Agricultural Input Subsidy Programs in Africa: A Review of Recent Evidence,” Michigan State University.
 18. African Development Bank (2022–2025), TAAT programme press releases and Annual Meetings 2025 briefing. <https://www.afdb.org/>
 19. African Development Bank (2022–2023), African Emergency Food Production Facility approvals and project appraisal reports. <https://www.afdb.org/>
 20. Zambia Ministry of Agriculture, FISP 2024/25 e-voucher documentation; World Bank (2026), FISP 2024–2025 Season E-Voucher Rollout Review. <https://www.worldbank.org/>
 21. Reporting on the Malawi Affordable Inputs Programme (2024–2025): Times Malawi; ActionAid Malawi 2023/24 Agriculture Sector Budget Analysis; World Bank Malawi Agriculture Public Expenditure Review. <https://times.mw/>
 22. GRAIN (2024), “The AfDB strategy to agro-industrialise Africa.” <https://grain.org/en/article/7016-the-afdb-strategy-to-agro-industrialise-africa>
 23. African Development Bank (2020–2024), AFFM–OCP Africa announcements; industry reporting on OCP blending plants in Ghana and Rwanda. <https://www.afdb.org/>
 24. Sustain Africa (2024), De-risking Fertilizer Financing, Final Report (Dalberg). <https://sustainafrica-initiative.org/>
 25. Devex and Oxfam America (2025), reporting on the USAID programme terminations under Executive Order 14169, March–April 2025. <https://www.devex.com/>
 26. Rosa-Luxemburg-Stiftung (2024), “The German Government’s Devastating Cuts to Foreign Aid.” <https://www.rosalux.de/>
 27. Mastercard Foundation (2023), Youth Entrepreneurship for the Future of Food and Agriculture (YEFFA) programme announcement, September 2023. <https://mastercardfdn.org/>
 28. Green Climate Fund (2023), “Re-Gain: GCF and AGRA partner to transform Africa’s food systems,” December 2023. <https://www.greenclimate.fund/about/news-and-updates/re-gain-green-climate-fund-and-agra-partner-transform-africas-food-systems>
 29. AGRA (2022), Sustainably Growing Africa’s Food Systems: AGRA Strategy 2023–2027. <https://agra.org/>
 30. Bureau of Investigative Journalism (2026), reporting on Portland Communications / Web3 Consulting Wikipedia editing; <https://www.thebureauinvestigates.com/stories/2026-01-14/london-pr-firm-rewrites-wikipedia-for-governments-and-billionaires>
 31. Estimate of African government FISP spending (~USD 1bn/yr across AGRA focus countries) synthesised from Wise (2020), World Bank (2021) Zambia FISP note, and Michigan State University (Jayne, Mason et al.) studies.
 32. Wise, T. (2026), “Requiem for Africa’s Green Revolution: An updated assessment of a failing

33. AGRA (2022), Life of Strategy Report 2017–2021: Progress Toward Inclusive Agricultural Transformation in Africa. <https://agra.org/>
34. Romero Antonio, M.E., Faye, A., Betancur-Corredor, B., Baumüller, H., and von Braun, J. (2024), “Productivity effects of agroecological practices in Africa: insights from a systematic review and meta-analysis,” *Food Security* 17(1), pp. 207–229. DOI: 10.1007/s12571-024-01504-6.
35. HLPE (2019), *Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems*, High Level Panel of Experts on Food Security and Nutrition, FAO, Rome; IPES-Food (2016), *From Uniformity to Diversity*; Pretty, J., et al. (2006, 2011), studies of resource-conserving agriculture across developing-country farms.
36. Smaldone, N., Kansanga, M., and Ledermann, S. (2025), “Over a decade into the New Green Revolution for Africa: a systematic review of key outcomes,” *African Geographical Review*, published online 18 September 2025. DOI: 10.1080/19376812.2025.2563335.
37. Park, A. and Howard, P.H. (2026), *The Bank Takes the Lead? Making Sense of the World Bank Group’s Role Supporting Livestock Projects in the Green Revolution in Africa*, IATP and AFSA, June 2026.
38. Community Technology Development Trust (2025), *An Assessment of the Farmer Input Support Programme (FISP) in Relation to Traditional and Conventional Farming Systems: A Comparative Study in Rufunsa, Shibuyunji, Chirundu, and Chikankata Districts*, Cultivating Change project.
39. Kansanga, M., Antabe, R., Sano, Y., Mason-Renton, S., and Luginaah, I. (2019), “A feminist political ecology of agricultural mechanization and evolving gendered on-farm labour dynamics in northern Ghana,” *Gender, Technology and Development* 23(3), pp. 207–233; Kansanga, M., Mkandawire, P., Kuire, V., and Luginaah, I. (2020), “Agricultural mechanization, environmental degradation, and gendered livelihood implications in Northern Ghana,” *Land Degradation and Development* 31(11), pp. 1422–1440; Moseley, W.G. and Ouedraogo, M. (2022), “When agronomy flirts with markets, gender, and nutrition: A political ecology of the new green revolution for Africa and women’s food security in Burkina Faso,” *African Studies Review* 65(1), pp. 41–65.
40. African Union (2025), *Kampala CAADP Declaration on Building Resilient and Sustainable Agrifood Systems in Africa*, Extraordinary AU Summit on the Post-Malabo CAADP Agenda, Kampala, 9–11 January 2025. Assembly document Ext./Assembly/Decl./3(XIX).
41. African Union, CAADP and AUDA-NEPAD (2025), *CAADP Strategy and Action Plan: 2026–2035 (Building Resilient and Sustainable Agrifood Systems in Africa)*, 11 January 2025. Assembly document Ext./Assembly/2(XIX).
42. African Development Bank (2016), *Feed Africa: Strategy for Agricultural Transformation in Africa 2016–2025*; and *Dakar 2 Summit country food and agriculture delivery compacts*, January 2023.
43. Republic of Senegal (2004), *Loi n° 2004-16 du 4 juin 2004 portant loi d’orientation agro-sylvo-pastorale (LOASP)*, adopted 25 May 2004, promulgated 4 June 2004.
44. DyTAES (2020), *Contribution aux politiques nationales pour une transition agroécologique au Sénégal*; CIRAD and FAO reporting on the DyTAES process and caravans, 2020–2025; and “The agroecological transition in Senegal: transnational links and uneven empowerment,” *Agriculture and Human Values* (2021), DOI: 10.1007/s10460-021-10247-5.

45. USDA Foreign Agricultural Service (2020), Senegal: 2020/21 Agricultural Program; and AGRODEP (2016), Fertilizer Subsidy and Agricultural Productivity in Senegal, working paper.
46. World Bank Group (2026), "Senegal Launches AgriConnect Compact to Transform its Agriculture Sector," press release, 10 February 2026.
47. Reporting on the Agropole Centre, inaugurated December 2025 (co-financed by the AfDB, the Islamic Development Bank and Enabel); and UNCTAD food import data for Senegal, 2021–2023.
48. GRAIN (2014), "How does the Gates Foundation spend its money to feed the world?"; and Bill & Melinda Gates Foundation (2008), "\$306 Million Commitment to Agricultural Development," press release, 25 January 2008.
49. U.S. Right to Know (2021), reporting on AFSA's donor letter and United States government funding of AGRA since 2006.
50. IKEA Foundation grants database: "Africa Food System Forum 2025–2026" (granted January 2025) and "Strengthening Regenerative Agriculture in Kenya (STRAK)".
51. The African Seed Access Index (TASAI), country reports for the AGRA focus countries, 2021–2022 editions.
52. Bunch, R. (2019), *Restoring the Soil: A Guide for Using Green Manure / Cover Crops*, Second Edition (ECHO). <https://www.echocommunity.org/resources/aba0ef91-ccaa-4f06-8ca7-e9518288345e>
53. African Union Commission and AUDA-NEPAD (2026), *The Fifth CAADP Biennial Review Report: Biennial Report to the AU Assembly on Implementing the June 2014 CAADP Malabo Declaration*, February 2026. <https://au.int/sites/default/files/English%20-%20The%205th%20CAADP%20Biennial%20Review%20Report.pdf>
54. Alliance for Food Sovereignty in Africa, *Healthy Soil, Healthy Food, Healthy Communities: Rebuilding Africa's food systems from the ground up* (Kampala: AFSA, 2026). https://afsafrica.org/wp-content/uploads/2026/06/EN_AFSA_Healthy-Soil-Healthy-Food-Healthy-Communities-25May26-_English_screen.pdf
55. Alliance for Food Sovereignty in Africa, *A Quiet Revolution Reshaping Food Systems: Stories of African Agroecological Entrepreneurship and Territorial Markets* (AFSA, 2025). <https://afsafrica.org/wp-content/uploads/2026/01/stories-of-african-agroecological-entrepreneurship-and-territorial-markets-2.pdf>
56. Alliance for Food Sovereignty in Africa, *Agroecology as a Climate Adaptation Approach: Stories of Change* (AFSA, 2023).
57. Alliance for Food Sovereignty in Africa, *Agroecology: Our Land Is Our Life* (AFSA, 2021).
58. Alliance for Food Sovereignty in Africa, *Stories of Seed Activism: Journalists from 14 Countries Reporting Peoples' Solutions to Corporate Control of Africa's Life* (AFSA, 2021). <https://afsafrica.org/wp-content/uploads/2021/09/seed-stories-final-print-en.pdf>
59. DyTAES, *Dynamique pour une Transition AgroEcologique au Sénégal*, <https://dytaes.sn>
60. CIRAD press release on agroecology and public policy in Senegal, 2020. Supports the consultations, the recommendations and the territorial transition plans with municipalities.
61. UNCTAD profile of Senegal's agricultural sector.

-
62. Zingore, S., et al 2023. The Implication of Soil Acidity and Management Options for Sustainable Crop Production in Africa, *Growing Africa* 2(1), 32–38. <https://growingafrica.pub/wp-content/uploads/2023/08/Zingore-et-al-GA123.pdf>
 63. FAO, The State of Food Security and Nutrition in the World (SOFI), on the rural and food-producer share of the undernourished.
 64. Tracking Input Subsidies in Zambia, draft report (CTDT / civil-society field research, 2025). Documents the Farmer Input Support Programme absorbing 72–75 per cent of the national agricultural budget.
 65. World Bank Group (2025), AgriConnect: Farms, Firms and Finance for Jobs (launched October 2025); remarks by President Ajay Banga, 14 October 2025; and World Bank “Farming and Agribusiness” materials.
 66. Joint MDB Report on Climate Finance (July 2026) and AfDB COP30 reporting. AfDB reported USD 5.93 billion, 54 per cent of total approvals, as climate finance in 2025 (up from USD 5.5 billion, 49 per cent, in 2024).
 67. Agroecology Coalition (2025), case study: Promoting on-farm diversification through watershed management (PELUM Kenya; Kiambu and Murang’a counties). <https://agroecology-coalition.org/>
 68. Agroecology Coalition (2025), case study: Project Kilimo Endelevu Arusha (CARI / Iles de Paix / RECODA / MVIWAARUSHA; Arusha region, Tanzania). <https://agroecology-coalition.org/>
 69. SWISSAID, FiBL and AFSA, CROPS4HD Tanzania seed case studies (Karatu, Momba, Mbozi, Ifakara and Ileje districts), 2022–2023.
 70. SWISSAID, FiBL and AFSA, CROPS4HD Niger seed case studies (Dosso region: millet, sorghum, cowpea, groundnut, Bambara groundnut, okra and sesame), 2022–2023.
 71. Raya Karkara and AFSA (2023), policy note to the Government of Niger on farmer-managed seed systems and the National Seed Policy.
 72. Germany’s agroecology commitments: Agroecology Coalition membership (Germany joined 2023; BMZ and the Federal Ministry of Food and Agriculture) and BMZ agri-food-systems strategy (2021); an increase of roughly EUR 800 million in agroecology commitments since 2014.
 73. ECOWAS Agroecology Programme (PATAE/PAIAD), 2018 onwards.
 74. EALA resolution (Nov 2024), motion (Jul 2025) and EAC Agroecology Bill, 2026.
 75. CEFROHT and coalition materials on the EAC Agroecology Bill.
 76. Government of Kenya, National Agroecology Strategy for Food System Transformation 2024–2033.
 77. United Republic of Tanzania, National Ecological Organic Agriculture Strategy 2023–2030.
 78. Agroecology Coalition national strategies register, March 2026.
 79. Murang’a County Agroecology Development Act 2022 and Policy 2022–2032.
 80. Vihiga County Agroecology Policy 2024; Makueni Agroecology Policy 2025; Kenyan reporting 2023–2026.
 81. Vihiga County Agroecology Policy 2024; Chumba et al. 2024.
 82. CIFOR-ICRAF commentary (2025); PELUM Kenya, Third Agroecology Symposium (2026).

-
83. UK Government. (2026). Global biodiversity loss, ecosystem collapse and national security: A national security assessment. <https://sl1nk.com/6a8ea8h>
 84. Cassidy, E.S., West, P.C., Gerber, J.S., and Foley, J.A. (2013), "Redefining agricultural yields: from tonnes to people nourished per hectare," *Environmental Research Letters* 8, 034015. https://www.researchgate.net/publication/258310295_Redefining_Agricultural_Yields_from_Tonnes_to_People_Nourished_per_Hectare
 85. International Union for Conservation of Nature (2022), Situation Analysis on the Roles and Risks of Wildlife in the Emergence of Human Infectious Diseases. <https://portals.iucn.org/library/node/49880>
 86. World Health Organization (2017), WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing Animals. <https://www.who.int/publications/i/item/9789241550130>
 87. Interafrican Bureau for Animal Resources (2018), African Union Animal Welfare Strategy for Africa. <https://repository.aubiar.org/server/api/core/bitstreams/575bc905-b333-485b-bf88-7fa3c10b86e2/content?trackerId=4ebb23e912e2f693>

ABOUT AFSA

The Alliance for Food Sovereignty in Africa (AFSA) is a continental coalition of civil society organizations dedicated to advancing the causes of food sovereignty and agroecology across the African continent. Our alliance comprises diverse entities, including African food producer networks, African CSO networks, indigenous people's organizations, faith-based organizations, women and youth groups, consumer movements, and international organizations aligned with AFSA's mission. Currently, AFSA is a network of networks with 47 member organizations actively engaged in 50 African countries, impacting approximately 200 million individuals.



WHO IS AFSA?

AFSA brings small-scale farmers, pastoralists, fisherfolk, indigenous peoples, faith groups, consumers, youth and activists from across the continent of Africa to create a united and louder voice for food sovereignty.

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