Improving the Design and Delivery of Fertilizer Subsidy Programmes in Africa

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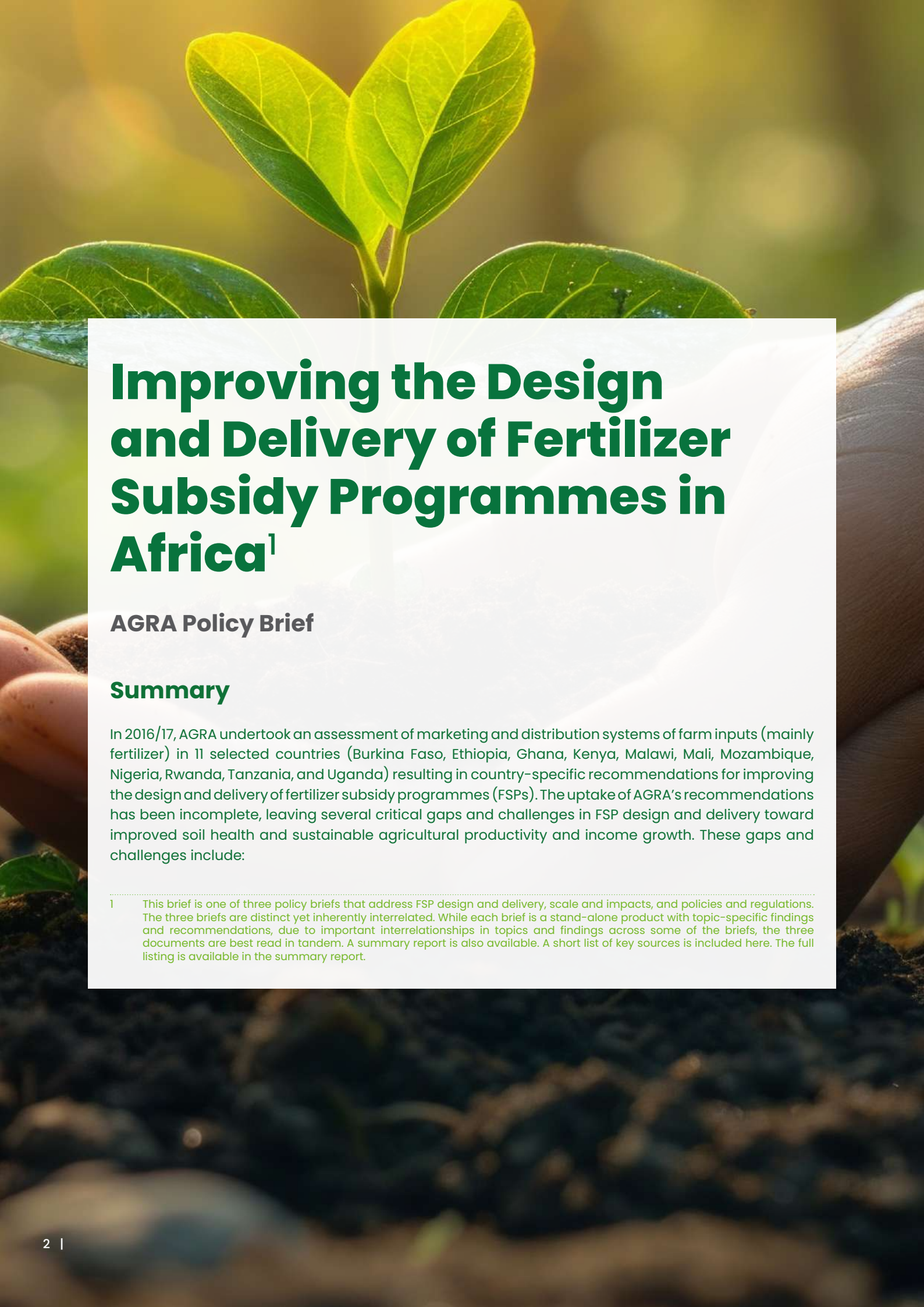

Improving the Design and Delivery of Fertilizer Subsidy Programmes in Africa[1]

AGRA Policy Brief

Summary

In 2016/17, AGRA undertook an assessment of marketing and distribution systems of farm inputs (mainly fertilizer) in 11 selected countries (Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Nigeria, Rwanda, Tanzania, and Uganda) resulting in country-specific recommendations for improving the design and delivery of fertilizer subsidy programmes (FSPs). The uptake of AGRA's recommendations has been incomplete, leaving several critical gaps and challenges in FSP design and delivery toward improved soil health and sustainable agricultural productivity and income growth. These gaps and challenges include:

1 This brief is one of three policy briefs that address FSP design and delivery, scale and impacts, and policies and regulations. The three briefs are distinct yet inherently interrelated. While each brief is a stand-alone product with topic-specific findings and recommendations, due to important interrelationships in topics and findings across some of the briefs, the three documents are best read in tandem. A summary report is also available. A short list of key sources is included here. The full listing is available in the summary report.

1. Continued lack of holistic integrated approaches aligned with broader agricultural sector goals and strategies
2. Limited soil testing capacity and integrated soil health approaches
3. Poor programme timing and inadequate stakeholder sensitization
4. Inadequate fertilizer quality control and inspection
5. Flawed beneficiary targeting, registration, and management
6. Poorly implemented transfer mechanisms
7. Poorly designed and executed graduation and exit strategies where these exist
8. Inadequate monitoring and evaluation (M&E) systems
9. Crowding out of the private sector, especially agrodealers
10. Elite capture, corruption, and politicization

To overcome these gaps and challenges, national authorities must take urgent actions over the short-term and medium-term.

Short-term actions (within 1-2 years) include:

1. Ensure timely distribution of subsidized fertilizers before planting seasons
2. Increase the quality and rigor of beneficiary targeting, registration, and management systems, leveraging digital platforms and mobile applications in gender-sensitive approaches
3. Strengthen graduation and exit strategy design and execution based on clear criteria derived from objectively verifiable levels and thresholds of farm and food system performance
4. Integrate fertilizer subsidies with complementary inputs and interventions for soil health improvement including agronomic advice and agroforestry innovations
5. Enhance and expand e-voucher systems, streamlining administrative processes and reducing bureaucratic hurdles
6. Promote the use of digital financial services in subsidy delivery systems including mobile payment solutions
7. Enhance transparency and efficiency in fertilizer importation, prioritizing enhanced supply chain management in competitive processes
8. Avoid crowding out of the private sector (especially agrodealers) in FSPs, ceasing direct delivery of fertilizer by public agencies

Medium-term actions (within 3-5 years) include:

1. Terminate all universal FSPs and replace them with targeted ones
2. Invest in infrastructure and capacity building to scale up soil testing, allowing flexibility in input choice
3. Scale up domestic fertilizer manufacturing and blending capacity including technology transfer in public-private partnerships
4. Strengthen quality control measures for subsidized fertilizers through strict regulations and strong sanctions against distribution of counterfeit and substandard products
5. Establish accreditation mechanisms for input retailers
6. Increase the quality, rigor, and coverage of M&E systems, deploying digital tools in regular assessments
7. Combat elite capture, corruption, and politicization through transparent procurement processes and robust oversight

Background

Fertilizer subsidy programmes (FSPs) seek to overcome flaws in food systems that limit fertilizer availability and access and thereby damage soil health and blunt food system performance. By reducing costs, boosting yields, and increasing fertilizer use efficiency, FSPs promote innovations in food systems that raise farmer incomes, enhance livelihoods, and increase food security. Managed properly, FSPs can incentivize farmers to adopt sustainable practices that improve soil health in the long run by enhancing soil structure, fertility, and microbial activity.

In 2016/17, AGRA undertook an assessment of marketing and distribution systems of farm inputs (mainly fertilizer) in 11 selected countries (Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Nigeria, Rwanda, Tanzania, and Uganda) resulting in country-specific recommendations for improving the design of FSPs. This brief summarizes the results of a review of the design and delivery of FSPs implemented in the 11 countries between 2007 and 2022. The degree to which FSPs in these countries incorporated AGRA's 2016/17 recommendations in their design and delivery is considered, revealing major gaps and challenges in FSP design and delivery. Recommendations for policy and investment toward addressing these gaps and challenges are proposed, aiming to improve FSP design and delivery in these countries and more widely in Africa.

Uptake of AGRA Recommendations to Strengthen FSP Design and Delivery

AGRA Recommendations for Smart FSP Design

Smart design of FSPs should: **(i)** stimulate new demand and promote growth of existing supply chains for fertilizer without displacing existing commercial sales; **(ii)** encourage competition in fertilizer distribution channels and thereby promote efficiency in fertilizer use; and **(iii)** be temporary with clear exit strategies.

AGRA's 2016/17 recommendations to improve FSP design had short-term and long-term aims. In the short term, AGRA sought to help the countries improve the effectiveness of the programmes by clarifying the objectives, eligibility criteria, targeting, exit strategies, and M&E systems. Over the long-term, AGRA sought to encourage countries to replace input subsidies with other forms of support. Specific recommendations fell into three clusters:

1. Enhancing clarity in programme objectives and associated beneficiary eligibility criteria, improving graduation and exit strategies, and strengthening monitoring and evaluation frameworks and systems;
2. Linking FSPs to soil health by scaling soil testing and nutrient deficiency mapping toward soil-specific and crop-specific input packages, and by establishing or boosting local production and blending capacity; and
3. Designing FSPs in congruence with other long-term agricultural and rural development investments (e.g., in agricultural R&D, extension services, and infrastructure).

Table 1 summarizes the implementation levels of these recommendations in the AGRA focus countries between 2018 and 2022. Overall, uptake of the recommendations is incomplete, with Mozambique and Uganda showing greatest implementation progress across most of the recommendations. At the other extreme, Burkina Faso, Kenya, Mali, and Tanzania exhibit limited uptake. Ghana, Malawi, and Rwanda lie in between the two extremes, with moderate to strong implementation.

Table 1 Level of uptake of AGRA FSP design recommendations in 11 focus countries between 2018 and 2022

AGRA Recommendation	Level of Uptake of AGRA 2016/2017 recommendations*			
	Limited or Absent	Moderate	Strong	Not applicable
Enhance clarity in beneficiary eligibility criteria, and M&E systems	Burkina Faso Kenya Mali Tanzania	Malawi	Ghana Mozambique Rwanda Uganda	Ethiopia Nigeria
Implement graduation and exit frameworks strategies that allow continuous reduction and repackaging of government subsidies	Burkina Faso Kenya Mali Tanzania	Ghana Malawi	Mozambique Uganda	Ethiopia Nigeria
Implement measures to subject the FSPs to regular internal and external evaluations to inform policy adjustments	Burkina Faso Kenya Mali Tanzania	Ghana Malawi Rwanda	Mozambique Uganda	Ethiopia Nigeria
Scale soil testing and nutrient deficiency mapping and local production and blending toward soil-specific and crop-specific input packages	Burkina Faso Malawi Mali Mozambique Nigeria Tanzania Uganda	Ghana Kenya Rwanda	Ethiopia	--
Ensure congruence of FSPs with other long-term agriculture development strategies	Burkina Faso Kenya Malawi Mali Tanzania	Ghana Mozambique Uganda	Rwanda	Ethiopia Nigeria

* **Limited or Absent** = Recommendations not addressed or at initial planning stages; **Moderate** = Recommendations in pilot or initial rollout stages; **Strong** = Recommendations under full implementation

AGRA's 2016/17 recommendations applied only partially to Ethiopia and Nigeria. Ethiopia's input voucher programme is not a subsidy programme but rather a farm input credit programme, where farmers leverage vouchers to access credit from microfinance institutions and cooperative unions for purchases fertilizers, seeds and agrochemicals based on recommendations drawn from a comprehensive detailed soil map providing up-to-date soil fertility data. In 2022, 8.3 million farmers accessed 1.5 million MT of fertilizer through the programme. In 2022, with the sharp increase in fertilizer prices due to the war in Ukraine, the Government introduced a subsidy of 37.5 percent of the value of the ETB 40 billion input voucher programme to cushion targeted farmers from the price surge. Nevertheless, the central market-driven features of the initiative remain intact. In Nigeria, there has been no direct subsidy of fertilizer use since 2016. Rather, using subsidized locally sourced urea and limestone granules, the programme aims to enhance availability and affordability of fertilizers through financial and trading incentives that boost local production of various blends of NPK fertilizer at a reduced cost. The number of fertilizer manufacturing and blending facilities in Nigeria increased from 7 in 2015 to 48 in 2022, leading to a significant reduction in fertilizer imports.

AGRA Recommendations for Smart FSP Delivery

Smart delivery of fertilizer in FSPs hinges on: **(i)** clarity in targeting criteria and alignment of these criteria with clearly defined programme objectives, aiming to avoid errors of exclusion and inclusion, and to minimize diversion and misuse; **(ii)** clarity in the roles assigned to key public, private, and actors and stakeholders, backed by adequate administrative and implementation capacity; **(iii)** relevance, effectiveness, and sustainability of resource transfer modalities, including in-kind, cash, digital cash, physical vouchers, and electronic vouchers (e-vouchers); **(iv)** relevance, effectiveness, and sustainability of systems for distributing and accessing the transferred resources; and **(v)** timeliness and adequacy of delivered and acquired quantities of fertilizer, aiming to avoid crowding out of the private sector.

AGRA's 2016/17 recommendations to improve FSP delivery had short-term and long-term objectives. In the short term, AGRA sought to help countries improve effectiveness of programmes by supporting the use of private sector delivery models, applying digital systems for transparency, and implementing enhanced M&E systems to monitor the effectiveness of the programme. Over the long-term, AGRA sought to encourage countries to replace input subsidies with other forms of support. Specific recommendations fell into four clusters:

1. Promoting the use of modern information and communication technology (ICT) tools in fertilizer delivery, including development of databases of eligible farmers by location and crop;
2. Strengthening the capacity of agrodealers to take a leading role in the procurement and distribution of inputs;
3. Scaling up innovative financing mechanisms for fertilizer distribution; and
4. Establishing and operationalizing fertilizer regulatory frameworks and systems.

Table 2 summarizes the implementation levels of these recommendations in the AGRA focus countries. Overall, uptake of the recommendations is incomplete. Greatest progress has been made in deployment of ICT in monitoring input distribution and subsidy management, with systems having been rolled out in 6 of the 11 examined countries. Uptake has been lowest in scaling up innovative financing mechanisms for fertilizer distribution, with significant progress made in only 2 of the 11 countries (Ethiopia and Nigeria, neither of which implemented fertilizer subsidies over this period) and small-scale piloting in another two (Malawi and Mozambique).

Table 2: Level of uptake of AGRA 2016/2017 FSP delivery recommendations in selected countries

AGRA Recommendation	Level of uptake of AGRA 2016/2017 recommendations*		
	Limited or absent	Moderate	Strong
Promote the use of ICT tools in monitoring fertilizer distribution and subsidy management and develop databases of eligible farmers by location and crop	Nigeria; Tanzania	Burkina Faso Malawi Mali	Ethiopia; Ghana Kenya; Mozambique; Rwanda; Uganda
Strengthen the capacity of agrodealers to take a leading role in the procurement and distribution of inputs	Burkina Faso Uganda	Ethiopia; Malawi; Mali; Mozambique	Ghana; Kenya; Tanzania; Nigeria; Rwanda
Establish and operationalize fertilizer regulatory frameworks and systems		Burkina Faso; Ghana; Kenya; Mali; Malawi; Nigeria; Rwanda; Uganda	Ethiopia; Mozambique; Tanzania
Scale up innovative financing mechanisms for fertilizer distribution	Burkina Faso; Ghana; Kenya; Mali; Rwanda; Uganda; Tanzania	Malawi, Mozambique	Ethiopia; Nigeria

*** Limited or Absent** = Recommendations not addressed or at initial planning stages; **Moderate** = Recommendations in pilot or initial rollout stages; **Strong** = Recommendations under full implementation

Critical Gaps and Challenges in FSP Design and Delivery

Continued lack of holistic integrated approaches aligned with broader agricultural sector goals and investments

FSPs are most appropriately viewed as components of broader agricultural development strategies. Aligning these programmes with broader goals allows for a more integrated approach to agricultural development, where fertilizer subsidies complement other interventions such as agricultural extension services, research and development, market access initiatives, and infrastructure investments. By aligning fertilizer subsidy programmes with broader agricultural development goals, policymakers can ensure that subsidies contribute to achieving multiple objectives beyond just increasing fertilizer use. Such alignment also allows for greater flexibility and adaptability to changing socio-economic and environmental conditions.

While most FSPs entail subsidizing fertilizers alongside improved seeds, there is little evidence of scaled support for such farmer needs as irrigation technologies, improved agronomic practices, and market infrastructure that are critical to realization of the yield and income gains intended when subsidizing fertilizers.

Poor Programme Timing and Inadequate Stakeholder Sensitization

Agricultural inputs, including fertilizers, are highly seasonal, with demand peaking during planting seasons. Subsidy programmes must align with these seasonal patterns to meet farmers' needs when they are preparing their fields and planting crops. Timely distribution of subsidized fertilizers helps prevent shortages or delays that could hinder farmers' ability to start planting on time, impacting crop yields and overall agricultural productivity. Stakeholder sensitization is also a vital component of fertilizer subsidy programmes, contributing to their effectiveness, efficiency, and sustainability. By ensuring that all stakeholders are well-informed, engaged, and empowered to participate, these efforts help maximize the positive impact of subsidy programmes on agricultural productivity, livelihoods, and food security.

Poorly timed FSPs featuring limited stakeholder consultation and sensitization are common across Africa. These poorly timed fertilizer subsidy programmes have resulted in delays in the distribution of subsidized inputs to farmers, leading to missed planting windows and missed opportunities for optimal fertilizer application during critical stages of crop growth.

Poorly Designed and Executed Graduation and Exit Strategies Where These Exist

Graduation and exit strategies are critical for ensuring the long-term sustainability and effectiveness of fertilizer subsidy programmes in Africa. By supporting farmers' transitions toward self-reliance, market orientation, and sustainable agricultural practices, these strategies contribute to poverty reduction, food security, and rural development goals. Graduation strategies are designed to facilitate the transition of farmers from heavy reliance on fertilizer subsidies to self-sufficiency and improved productivity. These strategies typically involve a phased approach to gradually reduce or eliminate subsidies for farmers who have achieved certain milestones, such as increased productivity, improved income, or enhanced resilience. Exit strategies outline the gradual phasing out or termination of fertilizer subsidy programmes in a manner that minimizes disruptions to farmers' livelihoods while promoting sustainable agricultural development. Exit strategies are often implemented once farmers have achieved a certain level of productivity, resilience, and self-reliance. Box 1 summarizes key criteria for farmer graduation and government exit from FSPs.

While most FSPs in Africa have explicit durations and ending dates, many expiring programmes continue in new initiatives that extend well beyond the original ending dates. Further, there is little evidence of investments to ensure sustainability of outcomes beyond the ending dates. Objectively verifiable indicators to inform readiness for graduation or exit are seldom specified or applied. The sequence of severe economic disruptions between 2020 and 2022 due to COVID-19 and the war in

Ukraine thus led to national crisis response strategies featuring enhanced reliance on FSPs but without adequate attention to graduation and exit, further accentuating financial burdens on governments. Where FSPs have been deliberately cut or phased out (typically due to fiscal constraints), large shares of former beneficiaries have discontinued fertilizer purchases, suggesting failures to adequately prepare them to transition to full market exposure.

Box 1: Key criteria for farmer graduation and government exit from FSPs

Farmer graduation criteria include:

1. **Farm Productivity:** Demonstrated improvement in farm productivity metrics such as yield per hectare or livestock output.
2. **Income Level:** Achievement of a realistic income threshold to indicate self-reliance and reduced dependence on subsidies.
3. **Resource Management:** Efficient use of fertilizers and other agricultural resources, minimizing wastage and environmental impact.
4. **Crop Diversification:** Transitioning to a diversified crop portfolio, reducing reliance on specific crops supported by subsidies.
5. **Adoption of Technologies and Best Practices:** Demonstrated sustained utilization of improved technologies and sustainable and modern agricultural practices costs.
6. **Market Access:** Sustained access to reliable input and output markets.

Government exit criteria include:

1. **Market Stability:** Existence of a stable agricultural market where farmers can access fertilizers at fair market prices without government intervention.
2. **Private Sector Capacity:** Existence of capacity within the private sector to supply fertilizers efficiently and competitively without government subsidies.
3. **Policy Environment:** Presence of a conducive policy environment that encourages private sector investment in fertilizer production and distribution.
4. **Farmer Knowledge:** Credible evidence of farmer education and training in relevant improved agricultural practices.
5. **Targeting Vulnerable Groups:** Existence of targeted assistance programs and mechanisms for vulnerable groups (e.g., direct cash transfers or input vouchers) to mitigate the impact of subsidy removal on their livelihoods during the transition period and beyond.
6. **Monitoring and Evaluation:** Establishment of a robust monitoring and evaluation system.
7. **Gradual Phase-out:** Existence of a credible plan for steady reduction of subsidy support to allow for adjustment and adaptation by farmers and other stakeholders.

Limited Soil Testing Capacity and Integrated Soil Health Approaches

Soil testing is a vital element of smart FSPs. By conducting soil tests, authorities can assess the nutrient and pH levels of soils in different areas and thereby determine the appropriate types and amounts of fertilizers needed. This ensures that fertilizers are used efficiently, avoiding both under-fertilization – which can lead to reduced crop yields – and over-fertilization – which can harm the environment and incur unnecessary costs. Soil testing provides farmers with customized recommendations based on their specific soil conditions, empowering them with the knowledge needed to make informed decisions about fertilizer use, leading to improved crop yields, reduced input costs, and environmental conservation. Soil testing, including pH measurement, is also pivotal for effective integration of organic fertilizers into FSPs in integrated soil health approaches. Understanding soil acidity allows for targeted application of organic materials and agroforestry innovations that can help adjust pH levels, optimize nutrient availability, and improve overall soil health, contributing to sustainable agricultural practices.

Soil testing capacity is limited in most African countries, and such capacity that exists is not adequately integrated into FSP design and implementation. Absent accurate soil information, most farmers supported under FSPs are applying fertilizers based on generic recommendations, leading to inefficient use of resources. Integrated soil health approaches are rare.

Inadequate Fertilizer Quality Control and Inspection

Ensuring input quality is essential for the effectiveness, trustworthiness, environmental sustainability, economic efficiency, and regulatory compliance of fertilizer subsidy programs. It is also crucial to guaranteeing that farmers receive effective and safe fertilizers. Quality fertilizers contain the necessary nutrients in the right proportions, ensuring that crops receive the nutrients they need for optimal growth and yield. Poor-quality or adulterated fertilizers may not deliver the expected benefits, leading to lower agricultural productivity and reduced returns on investment. Ensuring input quality also builds trust among farmers in government subsidy programs, enhancing their confidence in the effectiveness of the inputs provided and encouraging their continued participation. Subsidizing poor-quality fertilizers is wasteful and inefficient, as it results in lower agricultural productivity gains and necessitates additional inputs or interventions to compensate for deficiencies. Non-compliance with quality standards can results in legal liabilities, sanctions, or trade restrictions, damaging the reputation and credibility of subsidy programmes and government agencies. Poor-quality fertilizers disrupt markets and supply chains, affecting input suppliers, retailers, and other stakeholders. The presence of counterfeit or substandard products distorts and disrupts markets, leading to price volatility, reduced competition, and loss of market share for legitimate suppliers.

In most countries, capacity for effective fertilizer quality control and inspection is weak, with responsibility for key functions such as pre-shipment inspection and sampling and testing at ports dispersed across multiple institutions. Many countries have established testing laboratories to support these functions, but most are not internationally accredited. This undermines the credibility of test results and limits the power of regulatory authorities to enforce penalties on firms that are trading in non-compliant products, including counterfeit and substandard items that disrupt and distort markets. In addition, once fertilizers leave ports, enforcement of regulations is left in the hands of Ministries of Agriculture, or of dedicated departments of fertilizer or quasi-governmental institutions that have extremely low numbers of inspectors and resources, rendering inspection random or absent altogether. The overlapping roles and responsibilities of multiple institutions in the fertilizer sector leads to delays in clearances of fertilizer cargo at ports and high demurrage costs. Multiple fees and charges also result, adding to costs that ultimately are transmitted to farmers.

Flawed Beneficiary Targeting, Registration, and Management

Targeting ensures that fertilizer subsidies reach those who need them most and helps prevent ineligible individuals or entities from accessing subsidies, reducing the risk of fraud, corruption, and wastage of

public resources. Without proper targeting and registration mechanisms, fertilizer subsidies may be prone to leakage, diversion, and misuse. Registration processes generate valuable data on farmers' demographics, land holdings, cropping patterns, and input requirements. This data can inform evidence-based decision-making, policy formulation, and program design, enabling governments to tailor subsidy interventions to the specific needs and circumstances of different beneficiary groups. Effective beneficiary management facilitates transparent monitoring and evaluation of subsidy programs, allowing authorities to track the reach, impact, and performance of interventions over time. Regular reviews of beneficiary lists, verification exercises, and beneficiary feedback mechanisms enable program managers to identify challenges, address gaps, and improve program delivery.

The most common targeting approaches in the 11 AGRA focus countries are: **(i)** community-based targeting approaches (e.g., village committees); **(ii)** targeting by government employees (e.g., extension officers); **(iii)** hybrid approaches featuring community-based targeting with government involvement (e.g., stakeholder forums of public officials and community members; and farmer lists developed by combinations of local committees, local authorities, representatives of farmer organizations, and extension services officers); and self-registration (e.g., where farmers with an identification document and registered mobile phone number were required to complete a registration form at registration centres). Each of the targeting methods seeks to correctly select the intended programme beneficiaries in the population, based on eligibility criteria.

Land size holding is a common eligibility criterion, occasionally supplemented with a qualitative measure of poverty (e.g., capacity to afford fertilizers), or an indicator of vulnerability (e.g., female-headed households or households led by children and HIV afflicted persons). The hybrid targeting approach is the most common, followed by self-targeting and community-based approaches. Two countries (Burkina Faso and Mali) use universal subsidies, devoid of targeting.

No single approach is perfect and universally appropriate, with several context-specific challenges emerging. Where beneficiaries are selected through open stakeholder forums involving both community members and government representatives, there is evidence that households with more land are less likely to receive FSP inputs. Similar outcomes are reported where open meetings were used to select beneficiaries. Where community-based approaches are used, the process either favored large land size holders outright , or include large and small farmers in equal measure. Self-registration (Nigeria) yields a similar equal selection of large and smallholder farms. The ineffectiveness of community-based selection approaches is attributed to "elite capture" whereby committees favor relatives of committee members, friends and locally influential persons. While decentralized targeting reduces costs by leveraging local knowledge, it was vulnerable to conditions and relationships in local political systems and does not necessarily improve the distribution of recipients. Where support to women is an explicit eligibility criterion, targeting and selection approaches can fail to favor female-headed households, or even discriminated against women.

Digitization offers several benefits for improving beneficiary targeting, registration, and management in FSPs. Digital systems streamline the registration process, reducing paperwork, manual data entry errors, and processing time, often extending the reach of subsidy programs to remote or underserved areas. Online registration portals or mobile applications enable farmers to register themselves conveniently, while automated validation checks ensure data accuracy and completeness.

Significant progress has been made in deployment of digital innovations in monitoring input distribution and subsidy management, with systems having been rolled out in several countries. But exploitation of digital tools remains limited for real-time access to information on beneficiary registration, eligibility criteria, and subsidy disbursements. Opportunities to promote transparency and enhance tracking and monitoring of program implementation, including early detection of trends and irregularities remain largely unseized, as do those to integrate FSP data with existing agricultural databases (e.g., land records, crop surveys, and extension services).

Poorly Implemented Transfer Mechanisms

The choice of transfer mechanism is crucial for FSPs because it directly impacts their efficiency and effectiveness based on their implications for targeting accuracy, behavioral incentives, market dynamics, administrative costs, and monitoring and evaluation capabilities. Authorities must select the most appropriate mechanism based on these factors.

Paper vouchers and e-vouchers are the two transfer modalities under implementation in the 11 AGAR focus countries. Until 2017, paper vouchers were significantly more common than e-vouchers, but the latter are currently in use in a majority of countries. Some countries have deployed both modalities while piloting e-vouchers (e.g., Ethiopia, Burkina Faso, and Mali). Each modality has encountered significant challenges.

Paper vouchers have been vulnerable to counterfeiting (Malawi), late distribution and delivery of fertilizer (Ghana and Tanzania), and cumbersome bureaucratic processes with high administrative and implementation costs in their preparation and delivery (Ghana and Rwanda). Paper vouchers also involve often multi-step procedures in their acquisition, validation and redemption, imposing high costs and burdens on the private sector. While e-vouchers have led to cost savings in many contexts, they have been characterized by several challenges including: large inclusion errors and barriers to participation (Nigeria), leakage and fraudulent diversions of fertilizer for re-sale (Malawi and Nigeria), farmer illiteracy (Burkina Faso), inappropriate choice of digital technology (Mali), capacity gaps among agrodealers, and data fraud (Nigeria).

Some challenges have affected both paper and e-vouchers. Both modalities have been beset by insufficient availability of the subsidized products. Private importation and distribution of subsidized fertilizer has suffered from delays in payments by the government to importers and distributors, placing a heavy financial burden on the private sector. Permission to participate in government tenders has been restricted to selected importing companies, creating risk and uncertainty that reduced private incentives to invest in distribution networks. Limited competition in the importing and distribution system has encouraged concentration and collusion, late delivery of fertilizers to farmers due to bureaucratic processes, late confirmation of

the tender recipients, and delays in subsequent reimbursements to agrodealers. Delays in acquisition of fertilizers have been common. In some countries (e.g., Nigeria, Zambia, and Zimbabwe), e-voucher mechanisms have been negatively impacted by the same set of challenges that affected traditional input subsidy delivery mechanisms, leading some countries (e.g., Mali and Niger) to revert to traditional input subsidy delivery.

Crowding Out of the Private Sector, Especially Agrodealers

The private sector plays a pivotal role in FSPs by promoting supply chain efficiency, boosting market competition, enhancing innovation and adaptation, supporting fertilizer industry sustainability, and reducing the burden on government and sharing risk with it. Private actors, play a central role in importation, input distribution (including key administrative tasks – e.g., payment processing and inventory management), last-mile delivery, product knowledge and advice, market feedback, and monitoring and compliance. Agrodealers are especially important due to their role in last-mile delivery to farmers, often serving as intermediaries between fertilizer producers or wholesalers and end-users. They are also critical sources of product knowledge and advice to farmers.

In many countries, the private sector is being crowded out of fertilizer subsidy programmes when: **(i)** government agencies directly distribute subsidized fertilizers to farmers; **(ii)** subsidized fertilizer prices set by governments distort market prices and undercut private sector suppliers; **(iii)** single government entities or a few large companies dominate the subsidized fertilizer market; **(iv)** complex eligibility criteria, bureaucratic procedures, and administrative barriers deter private sector suppliers from participating in FSPs; **(v)** payment mechanisms for private sector suppliers are delayed or unreliable; **(vi)** subsidy programme implementation and procurement processes lack transparency; and **(vii)** market information and forecasting mechanisms are inadequate.

Agrodealers are especially vulnerable to crowding out, greatly deterring their input procurement, distribution, and marketing activities. Agrodealers face barriers in accessing subsidized fertilizers from government-approved suppliers or distribution channels. Exclusive procurement contracts, licensing requirements, or administrative hurdles restrict agrodealer participation in subsidized input markets, limiting their ability to offer subsidized products to farmers. Administrative burdens associated with programme compliance, documentation, and verification processes lead to delayed payments that strain agrodealer cash flows, liquidity, and working capital, affecting their ability to procure, stock, and distribute fertilizers to farmers.

Inadequate Monitoring and Evaluation Systems

Monitoring and evaluation (M&E) are essential components of fertilizer subsidy programs, providing critical information for assessing program effectiveness, promoting accountability, identifying programmatic challenges, optimizing resource allocation, fostering learning and adaptation, driving policy improvement, and engaging stakeholders in program assessment and decision-making. The absence of well-functioning monitoring and evaluation systems in the FSPs leads to uncertainty about program effectiveness, inefficient resource allocation, limited accountability and transparency, difficulty in identifying programmatic challenges, missed opportunities for learning and innovation, challenges in demonstrating impact, and limited stakeholder engagement and participation.

Information on M&E systems is not readily available in the 11 AGRA focus countries. Where such information is available, the picture that emerges points to lacking or incomplete M&E systems. Among the 11 countries, only in Malawi and Tanzania is there evidence of fully developed systems from the outset of FSPs. Other M&E systems are patchy in either or both design and implementation. Ghana's M&E system was launched but not fully implemented. Mali, Burkina Faso and Kenya's programmes lack dedicated and functioning M&E systems. In the absence of timely and accurate monitoring data, authorities struggle to make informed decisions on resource allocations, hindering scope to refine programme design and implementation over time, including possibilities for graduation and exit.

Elite Capture, Corruption, and Politicization

Elite capture of FSPs occurs when wealthy landowners, politicians, or other influential actors disproportionately benefit from subsidized fertilizer, leaving smallholder farmers or marginalized communities with limited access to the program's benefits. Corruption in FSPs entails the abuse of power or authority for personal gain, typically through bribery, embezzlement, or other illicit means. Politicization of FSPs involves the use of subsidies as a tool for patronage, vote-buying, or clientelism – e.g., where politicians distribute subsidies to their supporters or constituents in exchange for political allegiance or electoral support.

All three forms of abuse of power are rampant across Africa's FSPs due to inadequate governance structures, weak regulatory oversight, lack of transparency, accountability loopholes, and weak monitoring mechanisms and regulatory enforcement. In many countries, weak civil society organizations, media inhibitions, and frail citizen empowerment mechanisms constrain public scrutiny and accountability for elite-driven corruption in FSPs. Perceptions of nepotism, favoritism, and injustice in subsidy allocation breed cynicism, alienation, and disillusionment among citizens, weakening social trust and democratic governance. Diversion of resources, unequal distribution of subsidies, and political interference compromise programme impact, hindering progress towards sustainable development goals.

Recommendations for Policy and Investment

To overcome these gaps and challenges, national authorities must take urgent actions over the short-term and medium-term.

Short-term actions (within 1-2 years) include:

1. **Ensure timely distribution of subsidized fertilizers before planting seasons** to align with farmers' cropping calendars and maximize the impact on crop yields. Coordinate with input suppliers and logistics providers to optimize supply chain management and minimize delays in subsidy delivery.

2. **Increase the quality and rigor of beneficiary targeting, registration, and management systems** through: **(i)** greater use of objective criteria such as income levels, land size, household size, gender, and farming practices; **(ii)** greater use of digital platforms for beneficiary targeting, registration, and management by leveraging data analysis and geographic information systems (GIS), online registration portals, and mobile applications; and **(iii)** Integration of FSP data with other agricultural databases to improve data interoperability, reduce duplication of efforts.

3. **Strengthen graduation and exit strategy design and execution in FSPs** based on criteria derived from objectively verifiable indicators of farm and food system performance such as: crop yields, household income and assets, farmer adoption of sustainable production practices, farmer participation in training, and farmer market integration, and levels and stability of market prices of key farm inputs and outputs.

4. **Integrate fertilizer subsidies in space and time with complementary soil health-enhancing inputs and interventions** such as improved seeds, extension services (especially agronomic advice), agricultural training, agroforestry innovations, access to credit, and market linkages delivered within broader agricultural sector investments.

5. **Prioritize the enhancement and expansion of e-voucher systems in FSPs**, emphasizing user-friendly platforms, reliable rural connectivity, adequate training, and sustained support and sensitization of users. Additionally, streamline administrative processes to reduce bureaucratic hurdles and ensure efficient program implementation.

6. **Promote the use of digital financial services in subsidy delivery systems** to facilitate secure and convenient transactions between farmers and input suppliers. Invest in mobile payment solutions and digital platforms to enhance efficiency and transparency in subsidy delivery.

7. **Enhance transparency and efficiency in fertilizer importation** for fertilizer subsidy programs by implementing robust procurement procedures, enhancing supply chain management, promoting competitive bidding processes, ensuring stakeholder involvement in decision-making, and establishing transparent monitoring mechanisms to track importation, distribution, and subsidy disbursements.

8. **Avoid crowding out the private sector (especially agrodealers) in FSPs** by ceasing direct delivery of fertilizer by government agencies and promoting transparent procurement processes, timely payments to suppliers, and partnerships with agrodealers to utilize their local expertise and infrastructure for efficient input distribution.

Medium-term actions (within 3-5 years) include:

1. **Terminate all universal FSPs and replace them with targeted ones**.

2. **Prioritize the improvement and scaling up of soil testing in FSPs and allow flexibility in input choice** by allowing farmers to choose from a range of fertilizers suitable for their specific crops and soil conditions, including organic fertilizers and agroforestry innovations. Invest in infrastructure, capacity building, and public awareness campaigns to promote soil testing among farmers. Integrate soil testing data into subsidy distribution mechanisms to tailor fertilizer recommendations and optimize nutrient management for sustainable agricultural productivity.

3. **Scale up local production and blending of fertilizer in Africa** through sustained investments in infrastructure, technology transfer, research, innovation, public-private partnerships, and policy support to strengthen domestic fertilizer manufacturing and blending capacity.

4. **Ensure the quality of subsidized fertilizers through rigorous and transparent regulatory standards and quality control measures**, including investing in laboratory testing facilities, certification processes, capacity building initiatives, and monitoring systems along the supply chain. Deploy strict quality assurance safeguards against counterfeit or substandard products, ensuring farmers receive effective and safe products.

5. **Establish accreditation mechanisms for input retailers** to ensure that only qualified and reputable dealers participate in subsidy programmes. Accredited retailers should meet specific quality standards, adhere to pricing regulations, maintain adequate stock levels, and provide reliable extension services to farmers.

6. **Increase the quality, rigor, and coverage of monitoring and evaluation systems** leveraging digital tools and platforms to track the implementation and impact of FSPS. Ensure regular assessments to identify challenges, measure progress towards goals, and inform adaptive management strategies for continuous improvement.

7. **Combat elite capture, corruption, and politicization in FSPs** through transparent procurement processes, robust oversight mechanisms, stakeholder engagement, and enforcement of anti-corruption measures. Prioritize accountability, transparency, and equitable distribution to ensure subsidies reach intended beneficiaries and contribute to agricultural development.

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2 A full listing of references is provided in the summary report.

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