

Fertilizer Alert

#02 April, 2023

Fertilizer alerts identify current challenges and outline urgent action needed in the fertilizer sector in Ethiopia, based on surveys and focus group discussions. The identified alerts are listed in order of urgency.

Ethiopia

Alert 1

Limited availability and soaring price of fertilizer affect food and nutrition security

Alert 2

Accessibility - poor transportation and logistics limits the distribution of fertilizer

Alert 3

Illegal selling distorts prices, distribution and marketing of fertilizer

Alert 4

Credit shortage hampers small-holder farmers' purchasing capacity for fertilizers

Alert 5

Closure of the cooperative outside working hours is hindering the last mile supply and distribution

Alert 6

Poor assessment of the demand affects the entire supply chain of the fertilizer sector

Alert 1

Limited availability and soaring price of fertilizer affect food and nutrition security

What is the impact?

- Large number of resource poor farmers completely abandon the use of fertilizer
- Farmers purchase and use less fertilizer as a result the agricultural productivity will decline
- The majority of farmers apply fertilizer below the recommended rates
- Farmers shift to crops that require less fertilizer, compromising the production of major cereals and oilseeds (maize, wheat, teff)
- Farmers might start thinking of using alternative sources of nutrients such as the use of organic fertilizers. However, this cannot be realized in short period of time as it takes a long time to prepare organic fertilizers. Furthermore, the biomass required to produce organic fertilizers is so large that competing claims for biomass with other alternative uses intensifies and makes it difficult to satisfy the requirements
- Farmers may move to using low quality manure and compost
- Low productivity, yields and income particularly in high potential areas, associated with fertilizer scarcity, potentially disrupts cereal production, sales and as a consequence the overall market of cereals
- Shortages in domestic production may affect the availability and cost of food in the coming year
- Growing number of households require food aid due to food shortages

- The government might need to increase foreign currency expenditure (Forex) on purchase and importation of food
- Low export volume results in low foreign currency earning (Forex) for producers and government
- Decline in national GDP

What actions are required?

- Create, promote and support the establishment of steering and technical committees of fertilizer taskforces at federal and regional level which meet regularly to solve emerging challenges in fertilizer supply chain. A taskforce has already been created at national level.
- Improve the engagement of stakeholders with the Ministry of Agriculture (MoA) and regional Bureaus of Agriculture (BoAs) and the regional cooperative authority to implement efficient and dynamic planning, scheduling, financing, purchasing, monitoring, and distribution in continuously changing conditions.
- Create awareness about financial literacy for smallholder farmers
- Establish initial government support to alleviate current price situation and encourage smallholder farmers to purchase and use fertilizer
- Validate and demonstrate compost and other technologies for Integrated Soil Fertility Management (ISFM)

Who takes initiative? Who drives action?

- Input Director of MoA facilitates the establishment of a multi stakeholder taskforce at federal and regional level to coordinate actions, and prepare responsive adaptation strategy, realistic demand assessment and operational plan, and action for resource mobilization. Federal taskforce could facilitate the process.
- The Resilient Agriculture for Inclusive and Sustainable Ethiopian Food Systems (RAISE-FS) project in coordination with MoA is executing a detailed analysis of the fertilizer sector that may be utilized by the input and marketing sector State Minister, and input director of MoA to address the challenges
- Agricultural Research Institutes will undertake validation and demonstration of the effectiveness and scalability of alternative organic fertilizers such as compost technologies and other ISFM practices
- Development agents create awareness about the use of compost to complement fertilizer use and financial literacy
- The nationally coordinated steering and technical committees of fertilizer mobilize resources from government, development partners and non-governmental organizations (NGOs) to enhance the adoption of fertilizer.

What stakeholders are involved?

- MoA – inputs and marketing sector
- BoAs and regional cooperative agencies
- Agricultural Research Institutes
- Ethiopian Agricultural Business Cooperation
- Federal Cooperative Commission
- Ministry of Finance
- Central and commercial banks of Ethiopia

Alert 2

What is the impact?

Accessibility - poor transportation and logistics limits the distribution of fertilizer

- Shortage of transport associated with a short window for transportation affects the timely delivery of fertilizer from Djibouti and central stores to the primary cooperatives, which slows down timely availability of fertilizer at locally.
- Continuous increase in fuel cost that can even occur after agreements with transporters are made, discourage the contracted transporters
- Inefficient transport planning e.g. arrival of several trucks at the same time, and poor warehouse management often times make the process of offloading trucks take much longer, which further slows down supply and increases costs. Moreover, the price for loading and unloading fertilizer has increased significantly
- Security issues experienced along various roads in the country have led to a decrease in the number of trucks travelling from regions to distribution centres, unions and cooperatives
- Due to the delays in fertilizer supply, farmers have shifted fertilizer application from early-season staple crops (e.g. maize) to late-season, short-cycle crops and varieties (which are often less productive)
- High demurrage costs affecting the price of fertilizer

What actions are required?

- Promote and support the establishment of multi-stakeholder taskforces at federal and regional levels, which address challenges in the transport and distribution of fertilizer.
- Increase the number of distribution hubs in strategic locations such as use of existing in-land "dry ports" (that are used for other commodities) for fertilizer as well
- Enhance the efficiency of the logistic system through increasing the numbers of contracted trucks, design dynamic contract system that takes in to account the dynamics in fuel cost and security, and use the available train facilities
- Prioritize and schedule the supply and distribution of fertilizer according to agro-ecology and cropping calendar of different areas and crops

Who takes initiative? Who drives action?

- The fertilizer taskforce strategizes the transportation and distribution of fertilizer and suggest dynamic solutions under continuously changing situation
- Ethiopian shipping and logistics services makes contract to transport fertilizers from distribution centres to unions and cooperatives
- MoA in collaboration with Ethiopian shipping and logistics services and regional BoAs prioritize and schedule the supply and distribution of fertilizer according to agro-ecology and start of cropping calendar in different areas

What stakeholders are involved?

- MoA-inputs and marketing sector
- BoAs
- Ethiopian Agricultural Business Cooperation
- Ministry of Transport and Logistics
- Federal Cooperative Commission and Regional Cooperative Agencies
- Ethiopian Shipping and Logistics services



Picture 1. Djibouti port



Picture 2. Elto Farmers Cooperative Union, Sidama region

Alert 3

Illegal selling distorts prices, distribution and marketing of fertilizer

What is the impact?

- Shortage and untimely supply of fertilizer for smallholder farmers due to illegal selling
- Distorted and high price of fertilizer
- Illegal fertilizer selling generates corruption, adulteration, unethical and unfair trade practices
- Resource poor farmers are unable to access and afford fertilizer
- Illegal selling intensifies due to growing demand of fertilizer for unintended goals such as utilization of urea in livestock production and particleboard and plywood industries.

What actions are required?

- Review and amend the existing law, regulation and directive and advocate the design of customized directives and law enforcement at federal and regional level to curb illegal transaction of fertilizer and which are also relevant to woreda and kebele level operations
- Create awareness among cooperative staff about the commercial code of Ethiopia and enforce required regulations
- Effectively engage the taskforce at various levels to regularly monitor and supervise the transaction of fertilizer across distribution hubs, unions, woredas and kebeles

Who takes initiative? Who drives action?

- MoA in collaboration with Ethiopian Agricultural Authority review and amend the existing law, regulation and directive related to fertilizer marketing
- Cooperative Commission/Agency continuously capacitate and support the primary cooperative staff to create awareness
- Modernize warehouse management system and ICT based networking at various levels of administrations and agricultural offices to enable decentralized monitoring of real time flow of fertilizer

What stakeholders are involved?

- MoA and Ethiopian Agricultural Authority
- Cooperative Commission and Regional Cooperative Agencies
- Primary cooperatives
- Regional taskforce

Alert 4

Credit shortage hampers smallholder farmers' purchasing capacity for fertilizers

What is the impact?

- Smallholder farmers are unable to afford the price of fertilizer due to the high price of fertilizer
- Farmers use informal credit sources which charge high interest rate and often times cause conflicts
- Resource poor farmers may abandon the use of fertilizer which in turn may intensify yield gap and food gap months
- Some farmers apply fertilizer below the recommended rates
- Total land coverage where fertilizers are used decreases due to lack of finance by smallholder resource poor farmers
- Low productivity, output and income by both farmers in high potential areas and resource poor smallholder farmers

What actions are required?

- Facilitate farmers' access to credit and financial services for fertilizer purchase that takes in to account the current price of inputs.
- Capacitate the micro-finance institution (MFIs) to dynamically adjust their lending modality under the changing fertilizer market conditions as well as considering the changes taking place for MFIs to grow in to Banks.
- Scaling input voucher system in all areas
- Arrange higher level discussions with regional Finance bureaus to permit loan for farmers.

Who takes initiative? Who drives action?

- MoA in collaboration with regional finance bureau, MFIs and commercial bank of Ethiopia arranges credit facilities for smallholder farmers
- ATI facilitates the scaling of the input voucher system
- Cooperative commission capacitates the staff of Ru -MoA. 2022. Report of the agriculture inputs. Addis Ababa, Ethiopia.

What stakeholders are involved?

- Ministry of Agriculture (MoA) and Commercial Bank of Ethiopia (CBE)
- Federal Cooperative Commission and Regional Cooperative Agencies
- Agricultural Transformation Institute (ATI)



Picture 3. Andinet farmers' Cooperative Union, Amhara region



Picture 4. Kafa Farmers Cooperative Union, Boniga

Alert 5

Closure of the cooperative outside working hours is hindering the last mile supply and distribution of fertilizers to farmers

What is the impact?

- Ineffective service delivery at cooperatives due to and closure during out of working hours and unavailability of cooperative staff
 - MFI staff in most cases serve three to five kebeles that makes access problematic particularly at the peak time of planting.
 - A long queue of farmers picking up their fertilizers starts early the morning, forcing farmers to make time available during their prime time of planting
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What actions are required?

- Increase the opening hours of cooperatives during peak times (e.g. 12hrs, 7 days a week) to create a wider window for customers to visit the cooperative centre
 - Encourage the use of financial incentives for staff of cooperatives involved in fertilizer distribution to perform their duties out of working hours (for example payment of overtime)
 - Improve coordination between cooperatives and MFI staff at kebele level to ensure fast clearance of payment and collection of fertilizer
 - Support cooperatives in setting up fertilizer distribution schemes, which allow orders to be prepared and specific time slots to be allocated to farmers; this prevents long queues in fertilizer distribution and sales
 - Promote the sale of vouchers for fertilizer purchase at kebele level
 - Create awareness among store and cooperative workers and enhance their understanding of their responsibility related to fertilizer distribution
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Who takes initiative? Who drives action?

- Cooperative commission designs incentive mechanism for cooperative workers
 - Cooperatives and Kebele Office of Agriculture and Development Group prepare fertilizer distribution schedule for each farmer/development groups
 - Cooperative commission arranges training for cooperative staff
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What stakeholders are involved?

- Federal Cooperative Commission and Regional Cooperative Agencies
 - Ministry of Agriculture (MoA)
 - Primary cooperatives
 - MFIs
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Alert 6

Poor assessment of the demand affects the entire supply chain of the fertilizer sector

What is the impact?

- Inadequate assessment of the demand creates a mismatch between demand and supply of fertilizer at national, regional and kebele levels, aggravates fertilizer shortage in places and distorts the supply and demand assessment.
- High volumes of not-utilized fertilizer left over at cooperative level in some places due to inadequate demand assessment
- Demand fluctuation and frequent changes in estimation
- Financial loss and inefficiencies (Financial loss for cooperatives and national government)

What actions are required?

- Create a decentralized, realistic and timely demand assessment mechanisms based on the type of crops grown, soil fertility status, size of land cultivated and the recommendation rate.
- Strengthening efficiency of bottom-up planning, and capacitate stakeholders involved in demand assessment at woreda and kebele level.
- Design disaggregated demand assessment system by season and projected production area for meher and belg season as well as for irrigated production

Who takes initiative? Who drives action?

- MoA and BoAs need to capacitate the development agents to undertake realistic and timely demand assessment based on the type of crops grown, soil typology, size of land cultivated and the recommendation rate.
- MoA, BoAs and the regional cooperative agencies need to strengthen their information sharing mechanism to fill the gap of shortage of fertilizer by moving it from areas where there is a surplus to areas where there are deficits
- Projects like RAISE-FS may demonstrate tools and approaches like Innovation Recommendation Mapping to facilitate decentralized and automated fertilizer demand assessment as part of bottom-up woreda planning, and capacitate stakeholders involved in demand assessment at *woreda* and *kebele* level.

What stakeholders are involved?

- MoA and BoAs
- Regional Cooperative Agencies
- SWR Ethiopia/RAISE-FS

Dashboard

- Severe negative impact
- Negative impact
- Slight negative impact
- No impact; business as usual

Details

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Create, promote and support the establishment of steering and technical committees of fertilizer taskforces at federal and regional level	■
Create awareness about financial literacy for smallholder farmers	■
Encourage the farmers to produce and use quality organic compost (based on recommended practices) to supplement inorganic fertilizer	■
Increase the numbers of contracted trucks that transport fertilizers	■
Review and amend the existing law, regulation and directive and advocate the design of customized directives to curb illegal transaction of fertilizer	■
Effectively engage the taskforce at various levels to regularly monitor and supervise the transaction of fertilizer	■
Capacitate the micro-finance institution (MFIs) to dynamically adjust their lending modality under the changing fertilizer market conditions	■
Arrange higher level discussions with regional Finance bureaus to permit loan for farmers	■
Encourage the use of financial incentives for staff of cooperatives involved in fertilizer distribution	■
Support cooperatives in setting up fertilizer distribution schemes	■
Create awareness among store and cooperative workers and enhance their understanding of their responsibility related to fertilizer distribution	■
Improve the engagement of stakeholders to implement efficient and dynamic planning, scheduling, financing, purchasing, monitoring, and distribution in continuously changing conditions	■
Validate and demonstrate compost and other technologies for ISFM	■
Increase the number of distribution hubs in strategic locations	■
Prioritize and schedule the supply and distribution of fertilizer	■
Create awareness among cooperative staff about the commercial code of Ethiopia and enforce required regulations	■
Facilitate farmers' access to credit and financial services for fertilizer purchase that takes in to account the current price of inputs.	■
Scaling input voucher system in all areas	■
Increase the opening hours of cooperatives during peak times	■
Improve coordination between cooperatives and MFI staff at kebele level to ensure fast clearance of payment and collection of fertilizer	■
Promote the sale of vouchers for fertilizer purchase at kebele level	■
Create a decentralized, realistic and timely demand assessment mechanisms	■
Design disaggregated demand assessment system by season	■
Develop and use a digitalized demand assessment tool	■

Fertilizer Alert & supply chain assessment

Inorganic fertilizer is a critical input for enhancing agricultural productivity in Ethiopia's food system. However, Ethiopia heavily relies on imported fertilizers as they are not produced locally. This situation, makes the country extremely vulnerable to global price shocks. If not addressed adequately, these global drivers may have a negative impact on Ethiopia's food security on the short and medium term.

The cost of fertilizer in Ethiopia has registered, on average, a 170 % increase in price over the previous cropping season, reaching 47,150 ETB per ton (MoA, 2022). This may impact agricultural production in Ethiopia, whose growth does not match with the population growth and increased demands for food. Considering that the high potential food system is the major supplier of agricultural outputs to other food system typologies, households in food insecure and commercial areas as well as urban communities will also be affected, either directly or indirectly as food prices continue to increase in the wake of lower availability of staple foods.

Methodology

The study adapted a rapid assessment methodology which was developed by Wageningen Centre for Development Innovation (WC DI). The rapid sector assessment (RSA) tool was designed primarily to rapidly assess the impact of shocks on agricultural sectors. The tool reveals what impacts are most pressing, creates awareness, brings stakeholders together to identify and prioritize actions, provides validated evidence to guide these actions, and advocates for policy measures to respond to the

shocks (WC DI, 2021).

In collaboration with the MoA (input and marketing directorate), the RAISE-FS project conducted a supply chain assessment of the fertilizer sector. A stakeholders' workshop and participatory supply chain analysis was employed as an approach to analyse the fertilizer supply chain.

The workshop was held on December 15-16th, 2022 at Adama. The workshop was attended by representatives from the Ministry of Agriculture, Ethiopia Agricultural Business Cooperation, Amhara Agricultural Bureau, Oromia Cooperatives Promotion Agency, South Cooperatives Promotion Agency, Federal Cooperative Commission, Ethiopian Shipping and Logistic Enterprise, Commercial Bank of Ethiopia, Ministry of Finance, Ministry of Transport and Logistic, Ethiopian Maritime Affairs Authority, Ethiopian Standard Agency, and the Agricultural Authority. Representatives from these organizations presented functions, opportunities, and challenges relating to the organization's roles and duties.

Purpose

The aim of the Fertilizer Alert is to assess the effect of the limited availability and soaring price of fertilizer and other related challenges on the functioning of the fertilizer sector. It is also providing insights into immediate and practical actions needed to address emerging challenges. It, furthermore, offers insights into the use of the sector model as a diagnostic tool for supporting strategic development, planning, and monitoring interventions that aim to enhance the functioning, resilience and inclusiveness of specific agricultural sectors and food systems. The identified alerts are designed to address issues prioritized from the fertilizer supply chain assessment that require immediate action.

References:

MoA. 2022. Report of the agriculture inputs. Addis Ababa, Ethiopia.

Rapid Sector Assessment: an adaptive tool to manage agricultural sectors. Wageningen University & Research, December 2021

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