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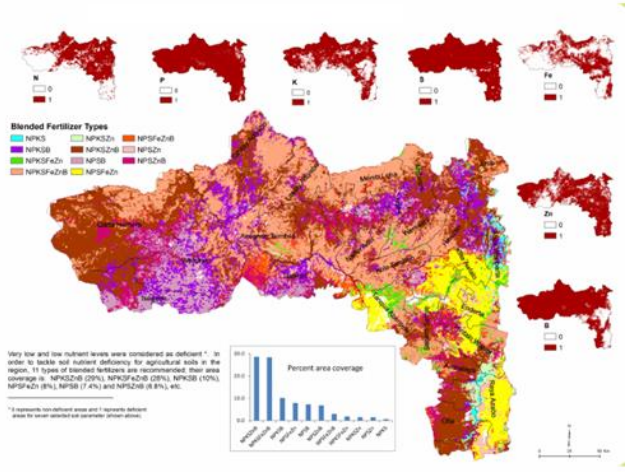
The right fertilizer for Ethiopia's soils

ESSP's efforts to build capacity and disseminate knowledge in areas that are critical to development, are manifested in the soil mapping program – the Ethiopian Soil Information System (EthioSIS) - driven by the Ethiopian government. ESSP seconded Hailu Shiferaw, a GIS expert, to work with the Agricultural Transformation Agency (ATA) and the Ministry of Agriculture (MoA) to capture data on Ethiopian soils, to build an extensive database for mapping the soil fertility, and to coordinate the GIS analyses in the EthioSIS team to produce the final digital soil mapping and printable Soils Atlases. Each regional state has fertility status maps, and at Kebele level, fertilizer recommendation maps.

This advancement means that the government can now more appropriately tailor fertilizer distribution, and farmers can apply a custom-blend fertilizer to mitigate the depletions of nutrients in the soil using a map to locate depleted areas. Eventually, the nutrients of these replenished soils will find their way into the food system and impact human health by providing vital minerals.

ESSP has supported the ATA through: i) Training delivery to regional and national experts on soil mapping, atlas interpretation and fertilizer applications in the field ii) Input to sampling procedures and quality control iii) Mapping technologies used for the establishment of EthioSIS geo-database within ATA and MoA iv) Involvement in identifying future fertilizer blending plants in strategic locations



Tigray Region fertilizer recommendation map (From *Soil Fertility Status and Fertilizer Recommendation Atlas for Tigray Regional State*)

In Ethiopia, farmers are likely to benefit from the new soil maps which will help improve their land management practices on which their livelihoods depend. By modifying these practices to site-specific soil needs, these changes are likely to impact the crop yields; and the success of which may critically affect food security and sustain the global food system.

Packers at Ethiopia's first fertilizer - blending plant (*Photo credit – ATA*)

So far, there are five functioning fertilizer-blending plants in Ethiopia which are established in four main regions close to the regional capitals. Besides this, the MoA and ATA conducted field demonstrations on more than 40,000 farmers' plots.

The potential to improve the soil quality in Ethiopia by making available the right fertilizer, could have a huge impact on Ethiopia's social and economic development, were it not for some challenges, which include: educating extension development agents on the 4Rs (right time, right rate, right type of fertilizer at the right sites); encouraging farmers on soil-water conservation to prevent further soil depletion issues; increasing farmers' access to fertilizer; making credit and loans available; and scaling up the operation. Nevertheless, by building a solid foundation in soil mapping with ESSP's support, a major stride has been taken towards implementing the government's agricultural transformation policy.

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