

Join us for a talk on:

“Soil Secrets to Milking Success: Unlock Your Dairy Potential with MbaZARDI”



Speaker:

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13th March 2026

10:00 - 11:30 (EAT)



<https://us05web.zoom.us/j/86490127099?pwd=x3CpHbad2g3cWSEHmKxxhIF2CYtj3d.1>

Meeting ID: 864 9012 7099

Passcode: 5U3CKe



SOIL SECRETS TO MILKING SUCCESS: UNLOCK YOUR DAIRY POTENTIAL WITH MBAZARDI



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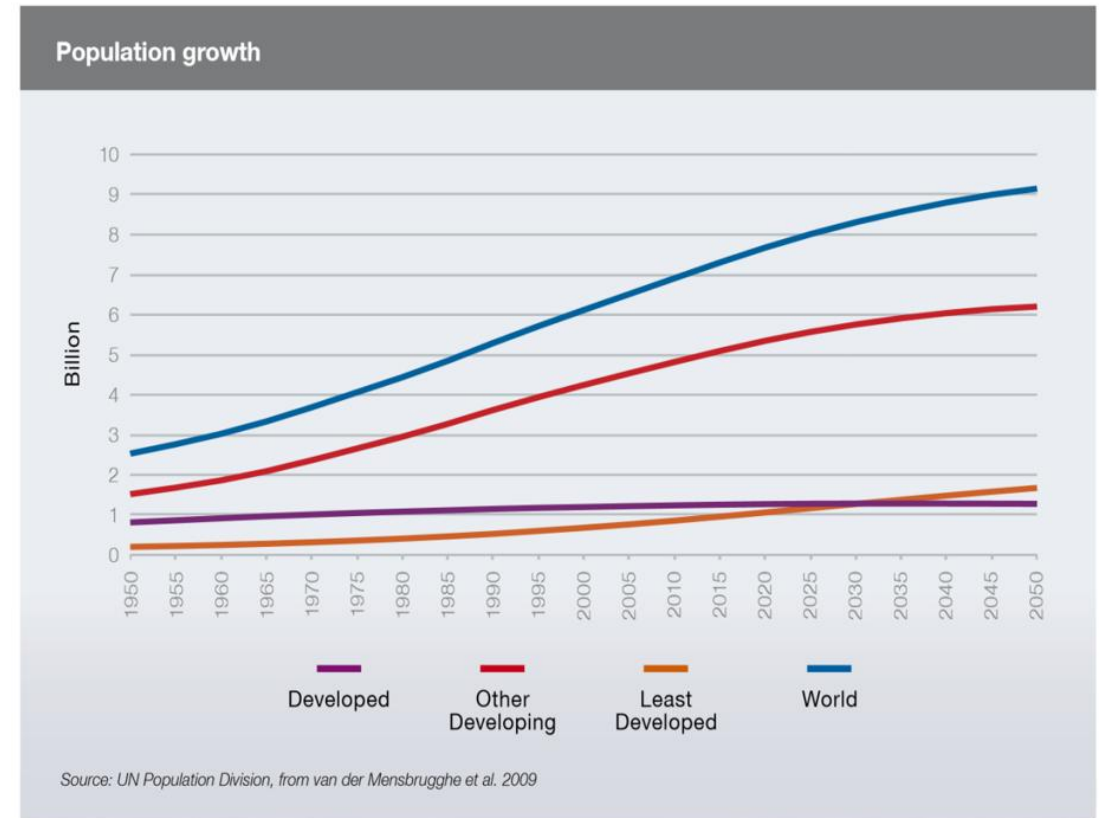
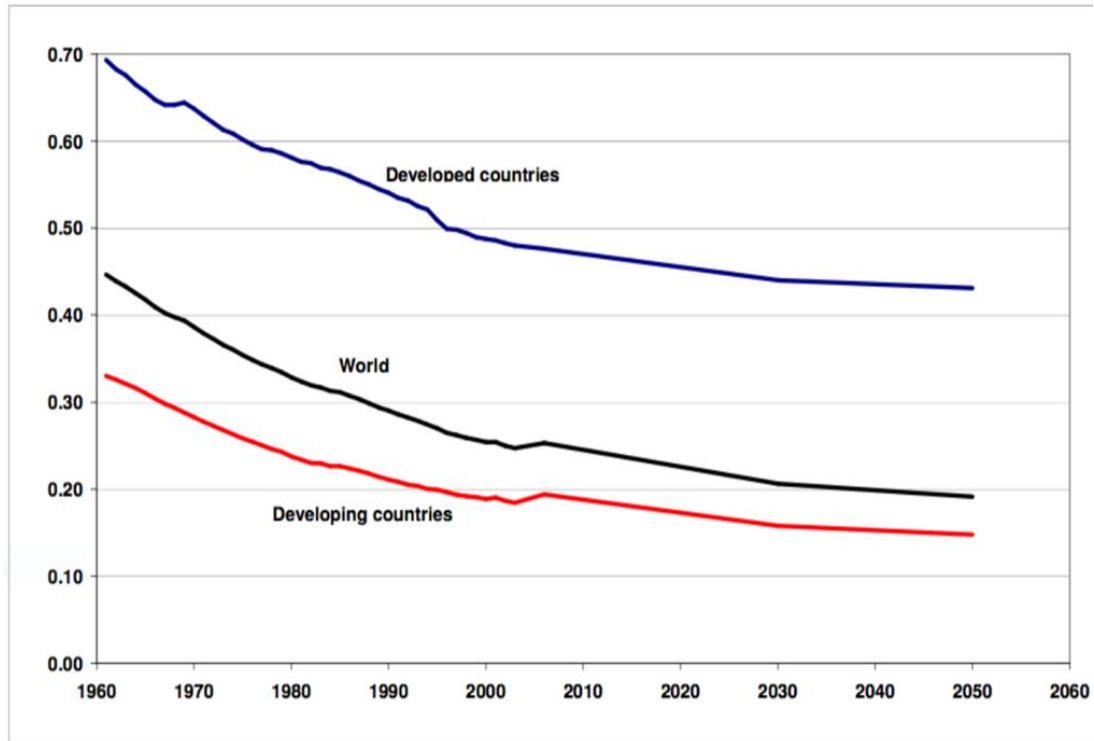


Introduction

- Dairy production in Uganda is a rapidly growing agricultural sector
 - Annual milk production rising from **2.08 billion liters** in 2015 to over **3.85 billion liters** by 2023
 - Contributes **6.5%** to agricultural GDP and **84%** of livestock export value
 - Provides income for **12 million people**, boosts food security, and drives rural development.
 - Driven by increased herd sizes and improved dairy management
- Production is based on low-input, pasture-based systems

Land available for agricultural production

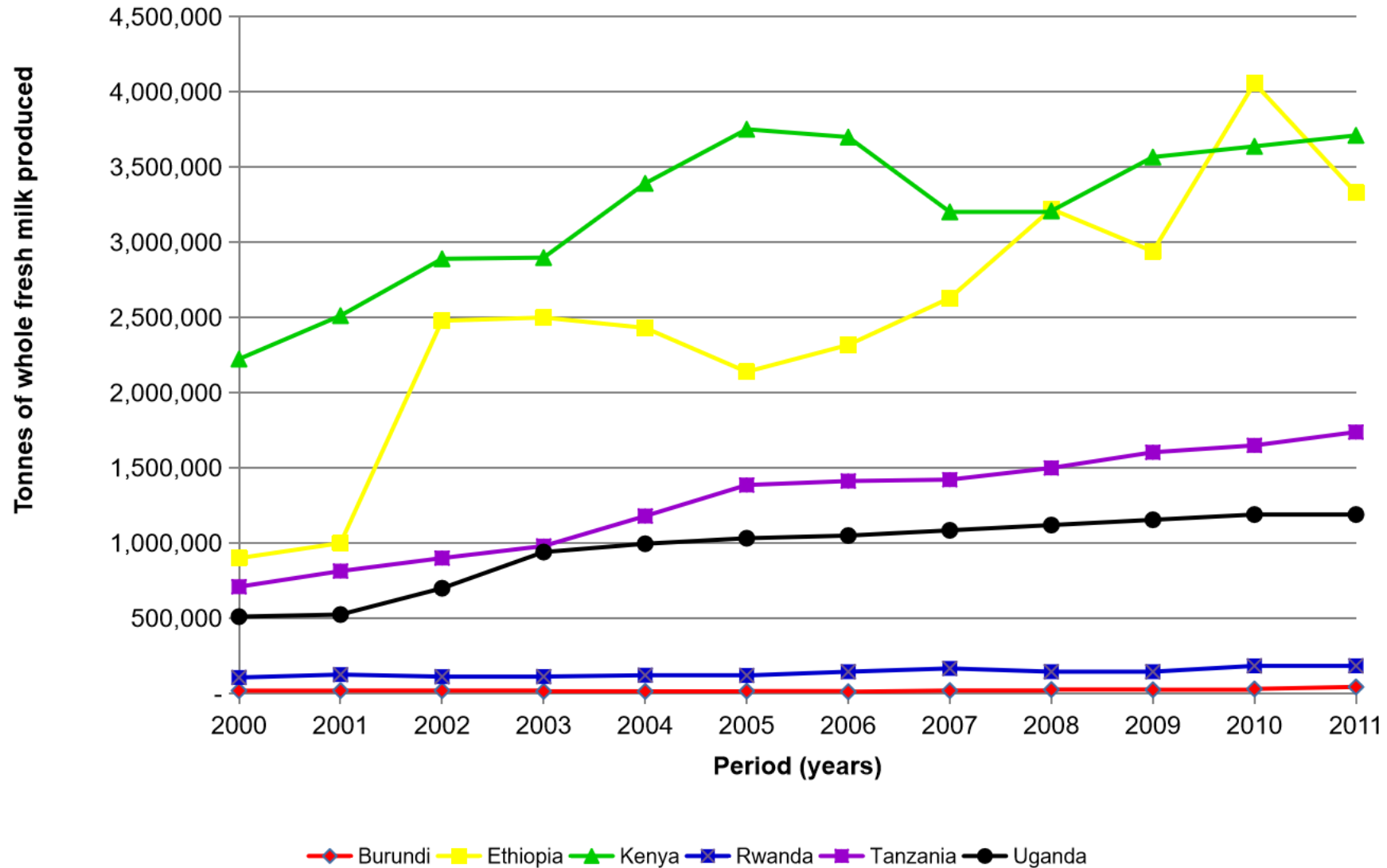
Land use for agriculture, industries and settlement





- Demand for food is increasing; demand for cereals, for both human food and animal feed uses will be **3.0 bn ton by 2050, up from 2.1 bn ton**
- World per capita consumption of milk is currently at **83 kg, from 77 kg 30 years ago** mainly due to increase per capita consumption from developing countries (from 37 kg to 52 kg)

Trends of milk production





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Constraints: Poor pastures (pastures with low biomass)



Giant Panicum



Chloris gayana



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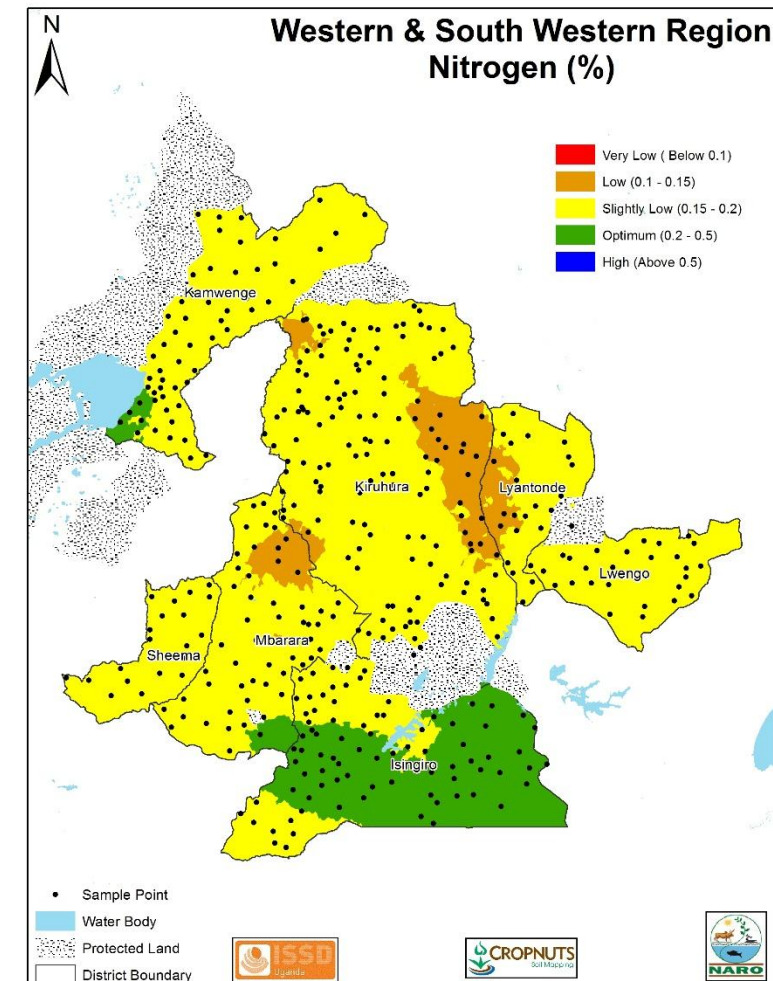
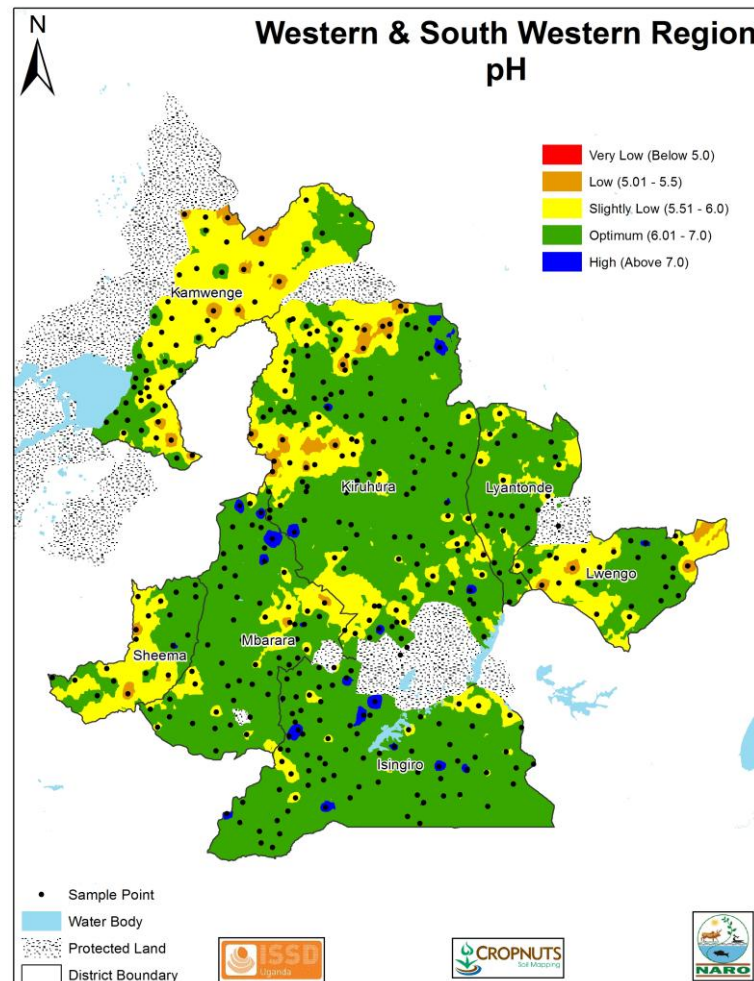
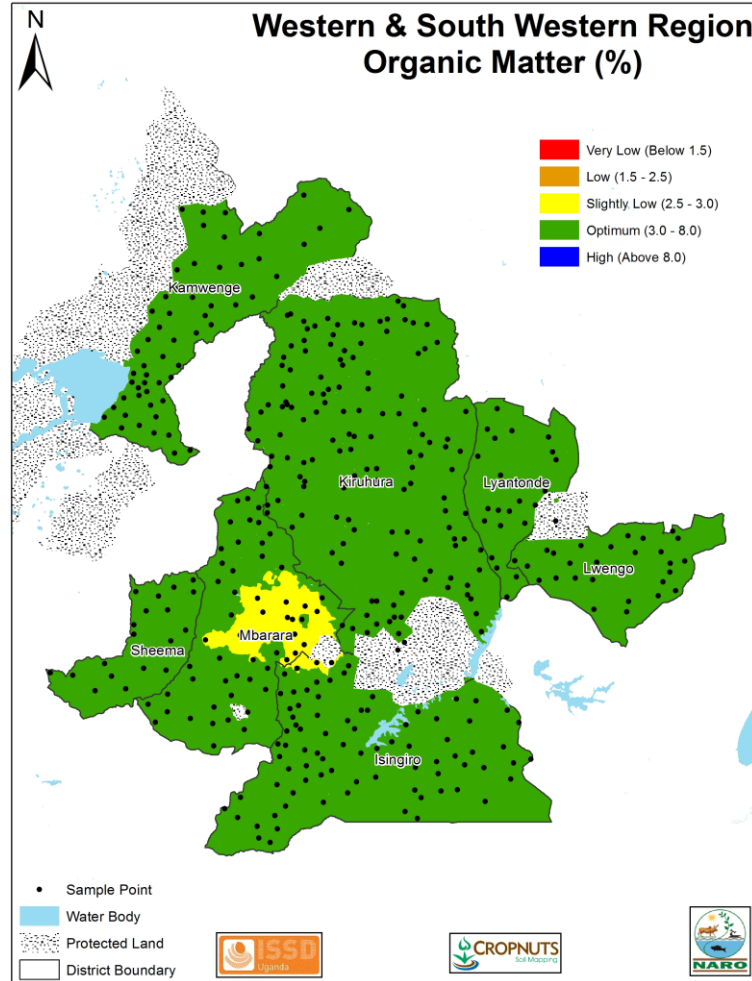


Importance of soil health

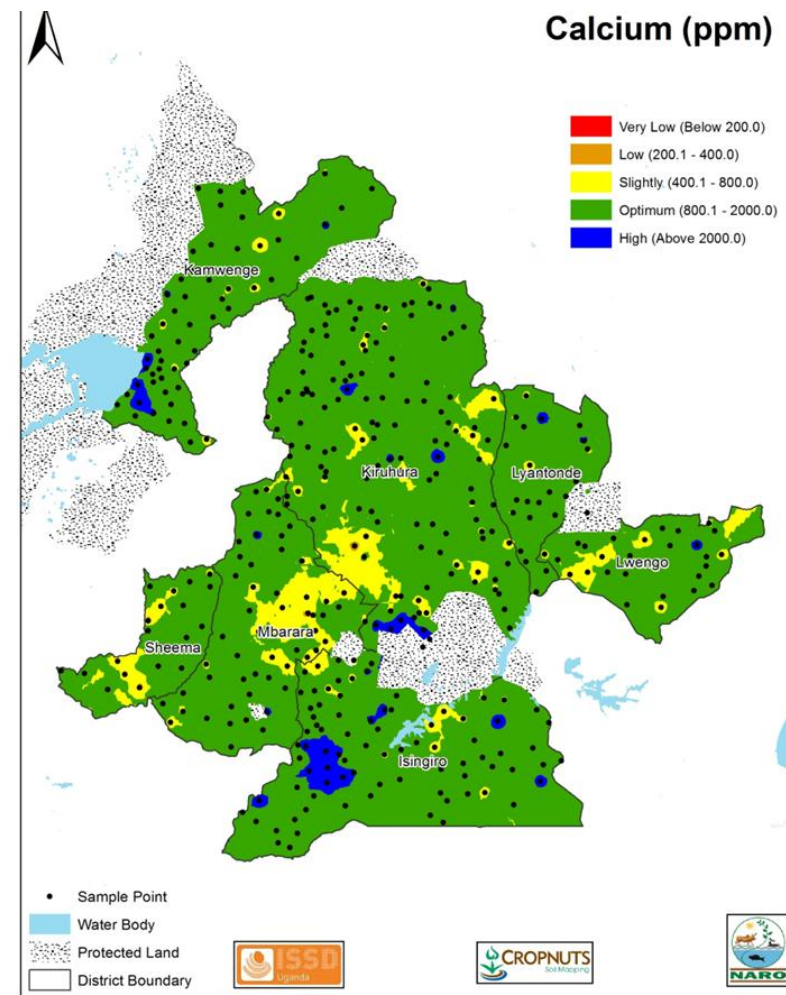
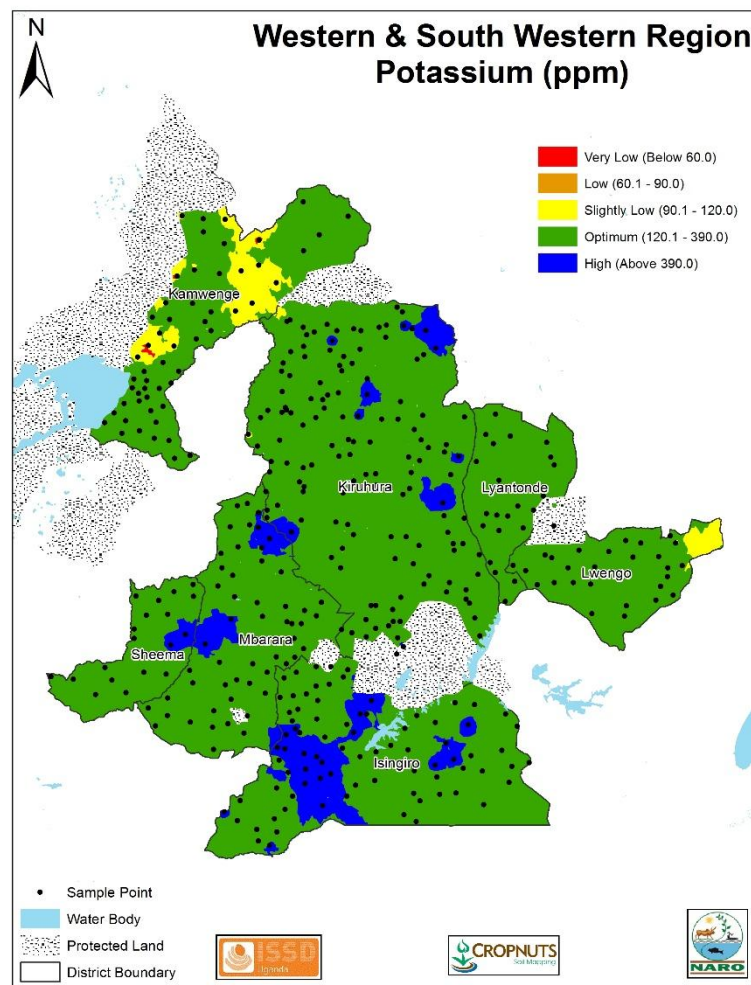
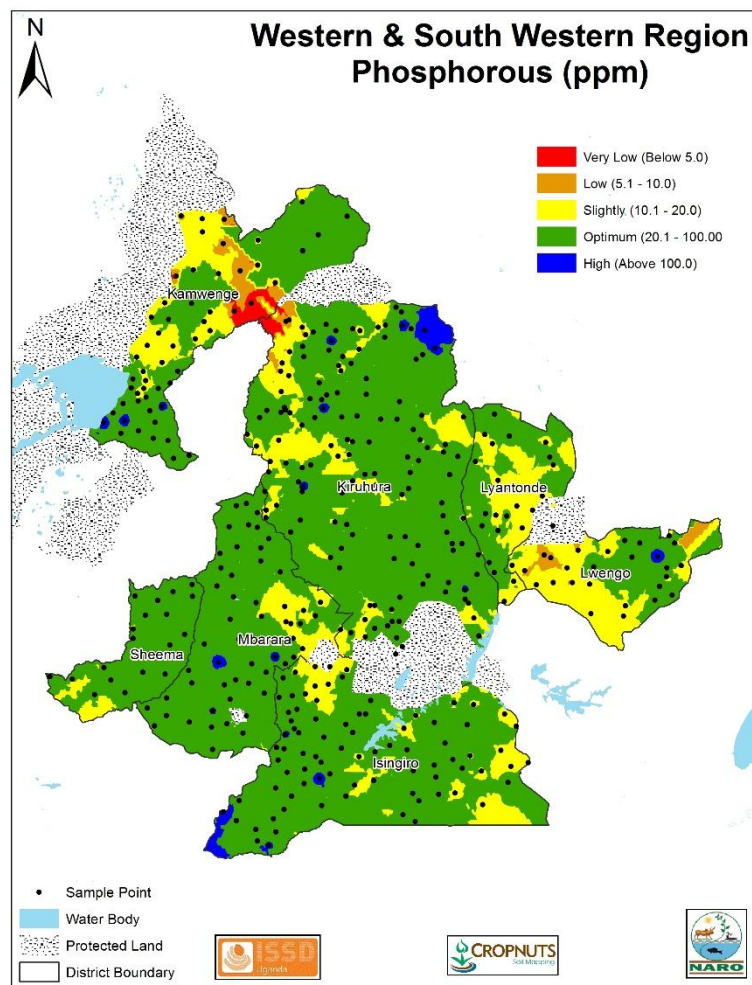
- Soil health plays a crucial role in the success of dairy farming and milking productivity
 - Influences **forage quality** and **availability**, which in turn impacts **milk yield** and **quality**
 - Improving soil health can **increase crop yields** and **reduce nutrient losses**, directly benefiting **feed supply** for dairy cattle and, subsequently, **milk production**



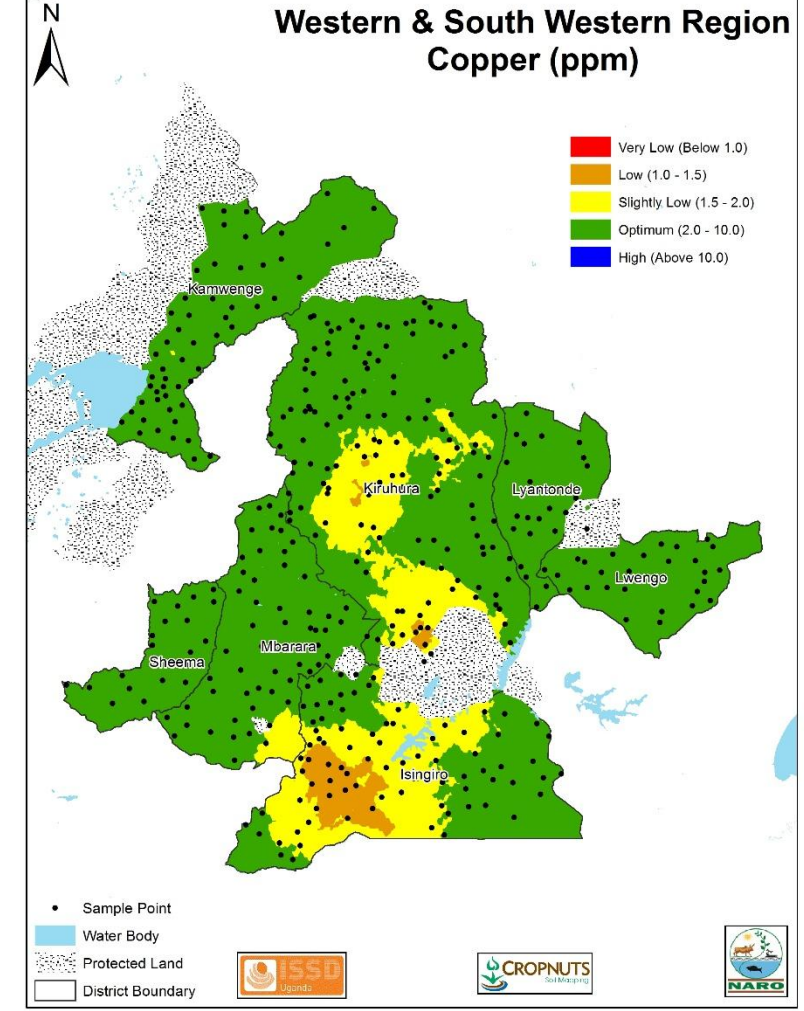
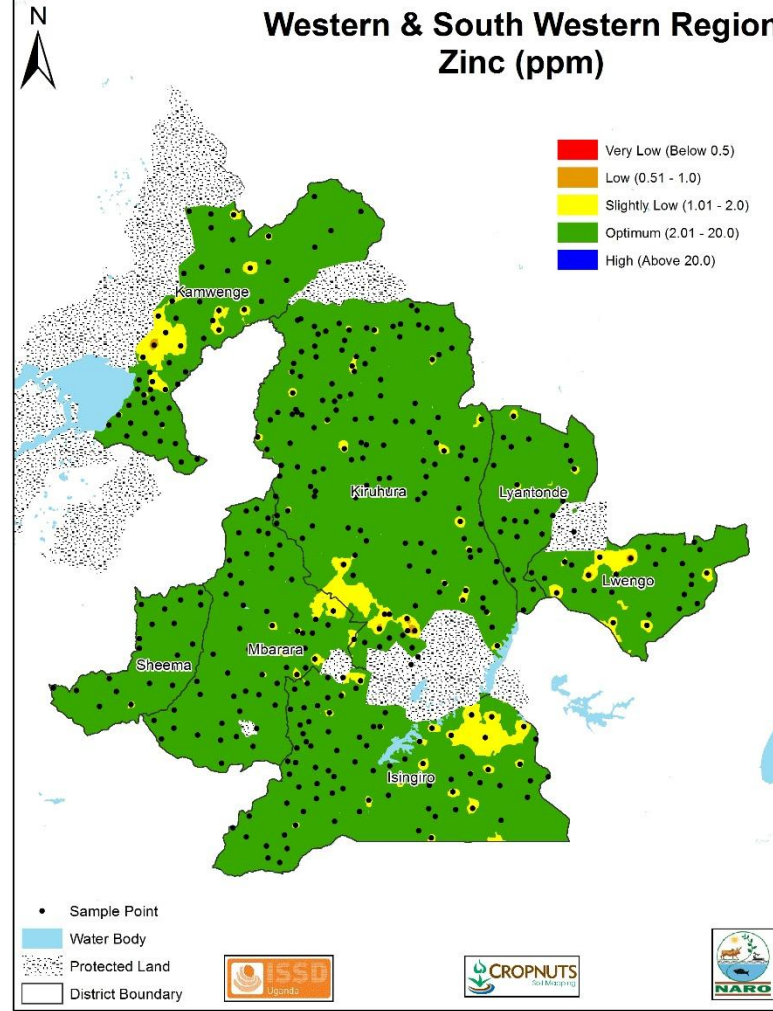
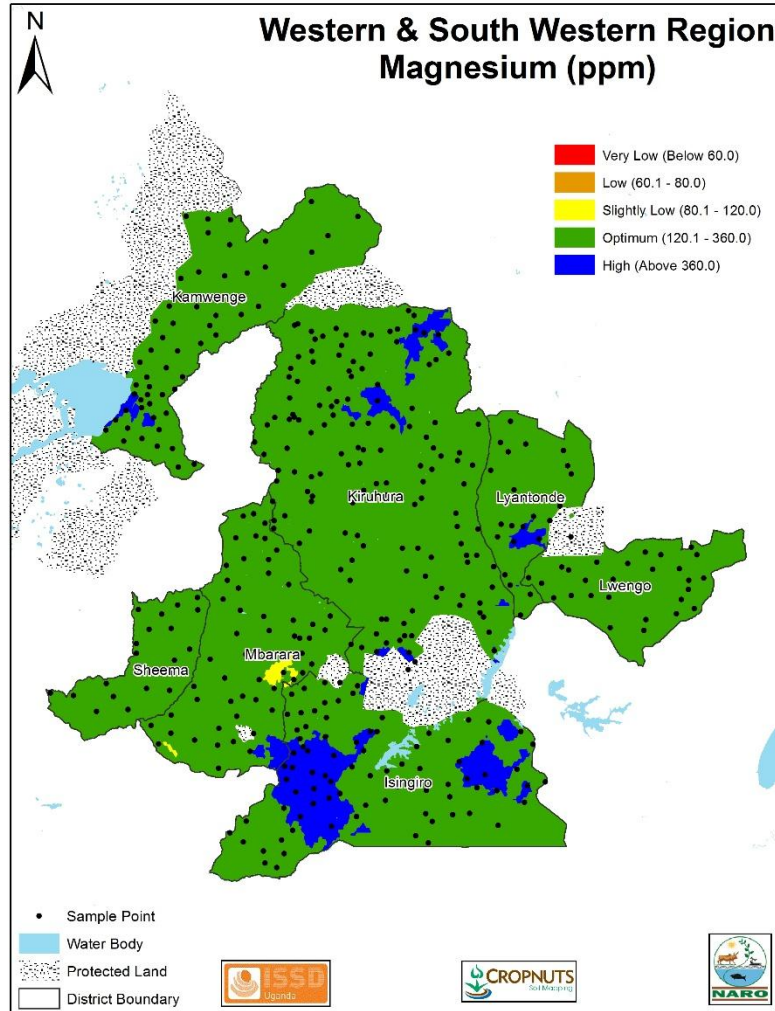
Overview of soil fertility challenges in the Cattle-corridor



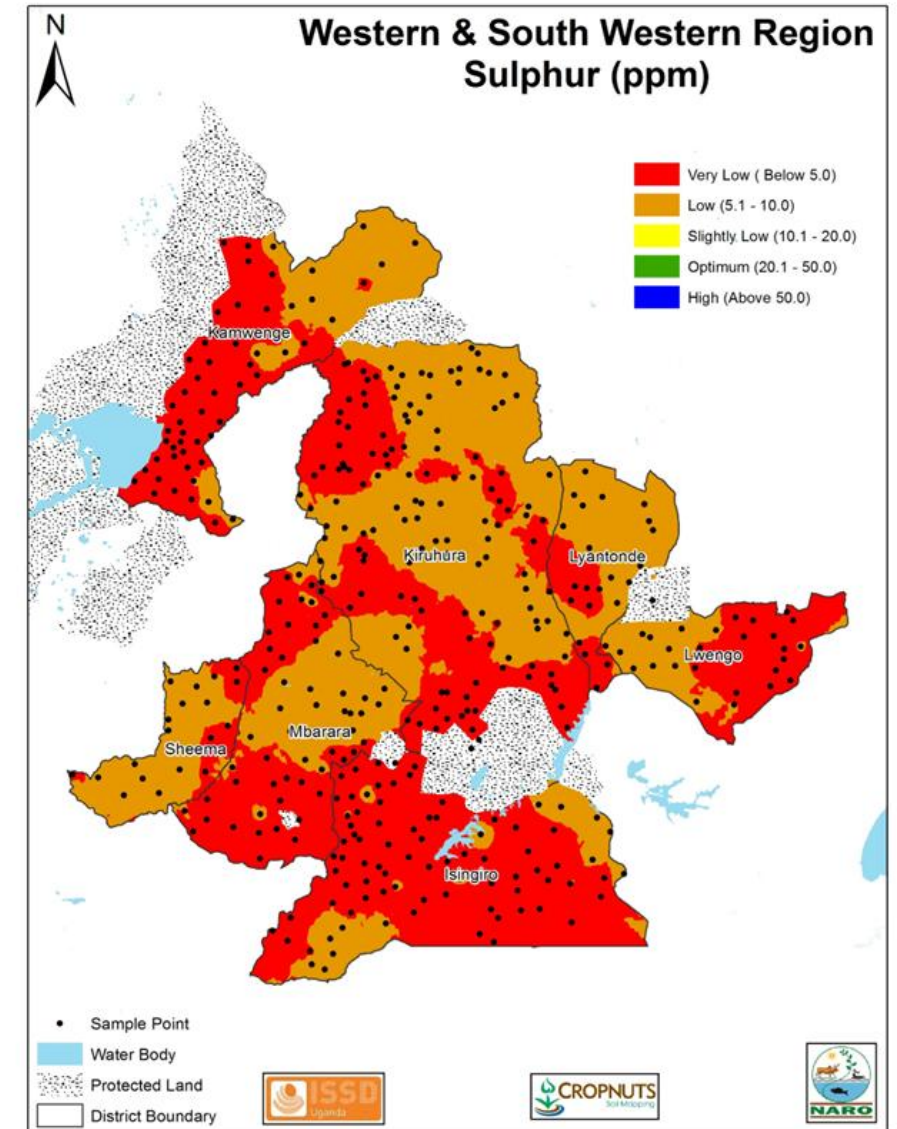
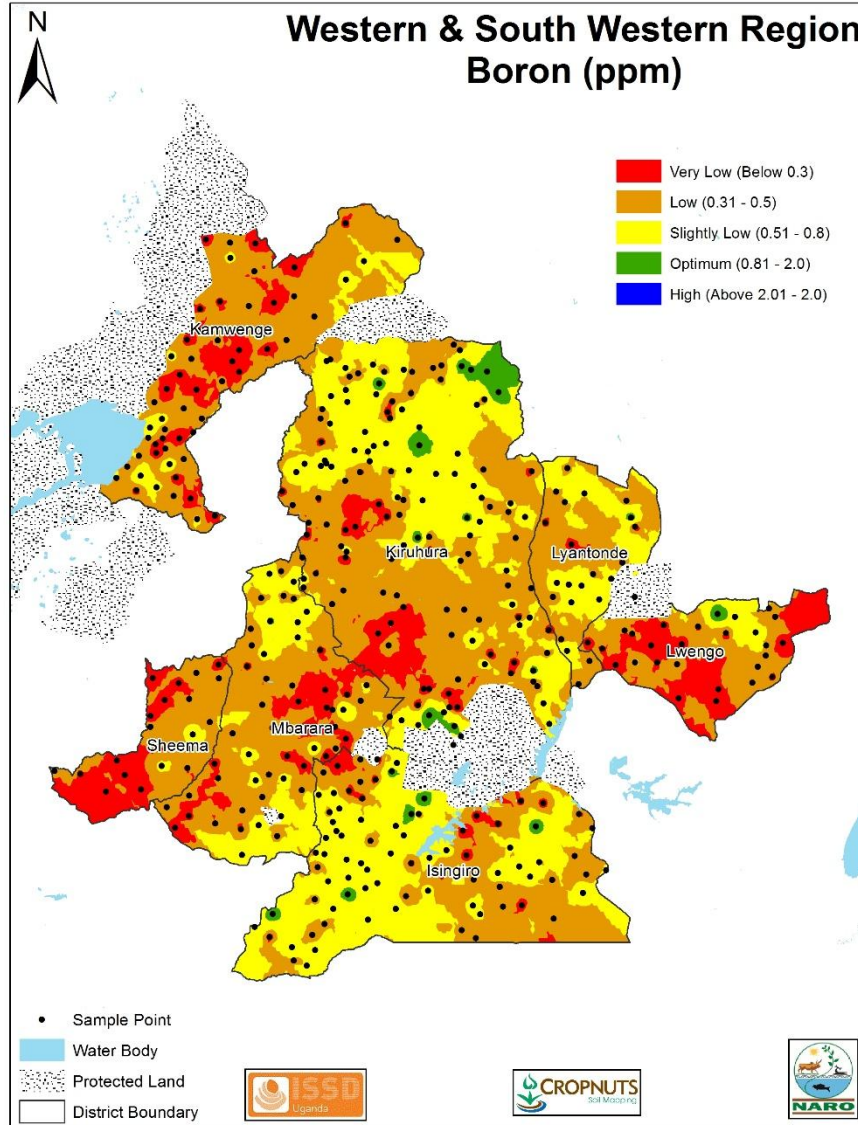
Overview of soil fertility challenges



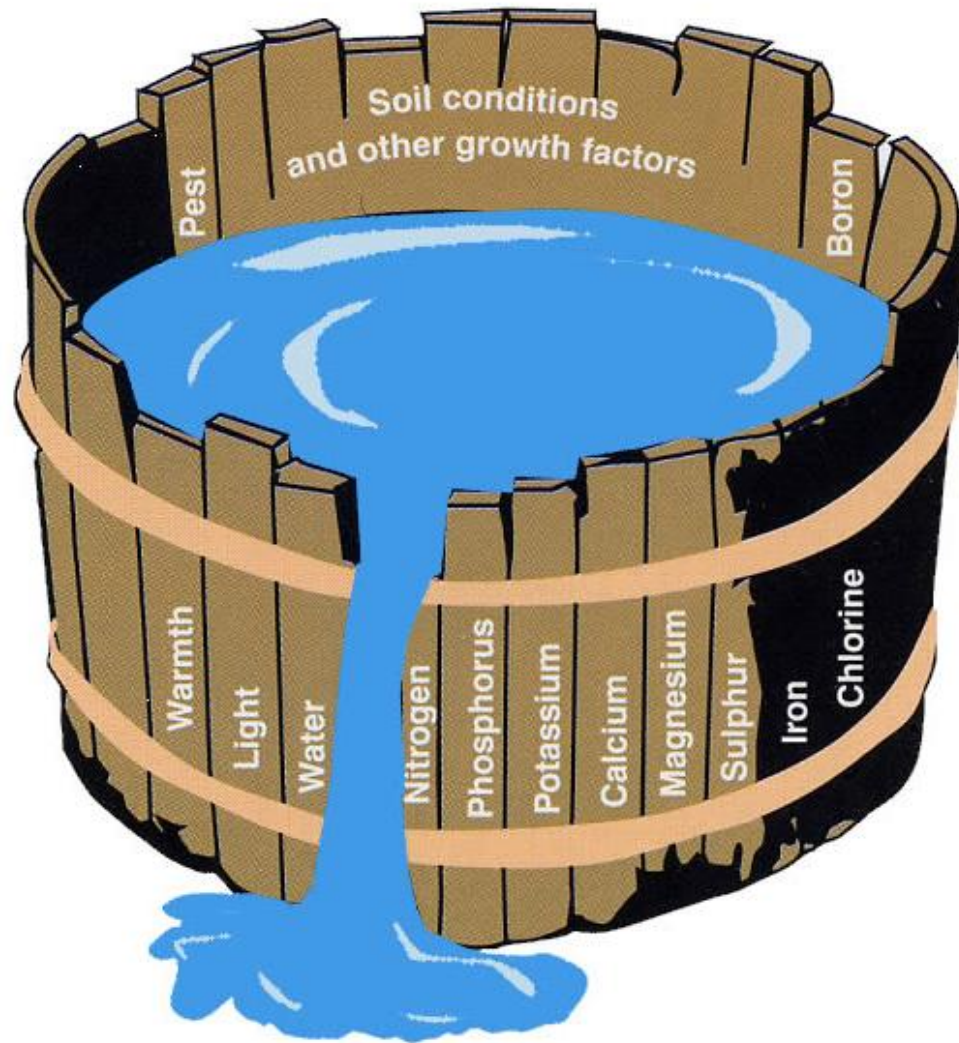
Overview of soil fertility challenges



Overview of soil fertility challenges



Why soil nutrient analysis?



- Soil and plant nutrient analyses are conducted to:
- Optimize crop/pasture yields
- Reduce fertilizer costs
- Mitigate environmental impacts such as nitrogen leaching.



Technologies that could be used in pasture/fodder production

Biochar

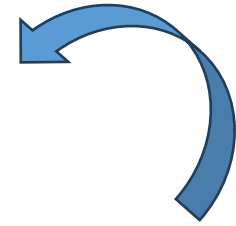
- Boosts biomass growth
- Increases water retention
- Enhances nutrient availability
- Improves soil structure





Liquid Bio fertilizers

- Sustainable, cost-effective, and efficient alternative to conventional synthetic fertilizers
- Quick response due to faster diffusion
- When applied directly to soil, it enhances soil health, and nutrient availability





Bio slurry

- Nutrient-rich effluent
 - It serves as a high-quality, eco-friendly organic fertilizer
- Acts as a cost-effective alternative to chemical fertilizers.





Solid Bio fertilizer

- Combines nutrient enhancement with long-term soil health improvement
- Sustainable alternative to chemical fertilizers
 - Carries beneficial microbes
 - Promotes root growth



Rhizobium inoculants

- Enhances nutrient uptake
- Boosts forage yield
- Reduces on costly synthetic nitrogen fertilizers



Mineral fertilizers

- Provides essential, readily available nutrients that increase forage yield, quality, and overall productivity.
- Their use is particularly beneficial in addressing nutrient deficiencies and supporting intensive grazing systems.





Rapid soil testing kits





Climate Agricultural practices – Fodder production

- Quality and quantity of forage driven by soil health remain critical factors affecting milk output
- Farming practices like conservation tillage, crop rotation, cover cropping, and organic amendments enhances soil organic matter, biodiversity, and nutrient cycling
- Improve soil resilience and productivity.
 - Preserve soil structure and organic carbon, reducing erosion and enhancing soil water retention





Take home message

- The "soil secrets" to milking success entail managing soil health through:
 - Organic amendments
 - Efficient nutrient and water use
 - Adopting conservation and sustainable agricultural practices
- This holistic approach supports better nutrition of dairy cattle, leading to improved milk yield, quality, and overall sustainability of dairy farming systems.
- In summary, optimizing soil health is foundational to milking success by ensuring high-quality forage production through sustainable practices that maintain **soil fertility, structure, and biodiversity**, directly translating into **better dairy productivity and environmental sustainability**



Thank you for
listening