



Food and Agriculture
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Relation between Laboratories and
Farmers – The case of Zambia




AFRILAB
AFRICAN SOIL LABORATORY NETWORK

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Introduction

- **Zambia** is based in Southern Africa
- Total area is 753,000km²
- Most of the land is arable
- Smallholder farmers make up 9% of total population, grow most of the staple crop
- Poor **soil fertility, acidity** affects production & productivity – Major crop is Maize (Corn) with yields as low as **2 tons/ha**  reduced income
- Most limiting nutrients are N & P

How is soil data used on the ground?

- **Blanket** recommendations for all crops made by the Ministry of Agriculture/Research
- Commercial farmers use the data to calculate soil nutrient requirements, Lime requirements & SWR
- Most small scale farmers do **NOT** use this data (follow blanket recommendations already available)

Do farmers have issues in sampling properly?

- Commercial farmers pay for these services
- They analyse their soils every production cycle
- No right tools to collect soil samples e.g Augers
- Typically, most SSF have little knowledge and/or interest in soil testing

Reason for soil testing

- Done to maximise production and productivity/get value for money
- For SSF, mostly to test for pH



Capacity of labs in Zambia

- There are only two reliable labs;
- University of Zambia & Mt. Makulu Research Station, both in Lusaka.
- The 2 can handle all tests
- There are an additional labs but only do very limited tests

Challenges

- Trust
- Limited network of reliable laboratories
- Only two reliable labs in the country
- Expensive – Not less than US\$40 per sample
- Culture – Small scale farmers don't see value in soil testing
- Extension agents part of the problem!

Recommendations

- Build confidence in local labs through calibration
- Introduce **mobile** testing kits
- These could include **scanning technology** to reduce the cost
- Massive **sensitization** and **training** of farmers/extension agents





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