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INTERNATIONAL DEVELOPMENT
Innovative Solutions for Global Prosperity

Farmer-Managed Weather Monitoring in Southern Zambia

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- **Division of Land O'Lakes Inc. founded in 1981, that leverages corporate experience and expertise**

- **Our Vision:** To be a global leader in transforming lives by engaging in agriculture and enterprise partnerships that replace poverty with prosperity and dependency with self-reliance.

- **Our Mission:** Help farmers around the world improve incomes and quality of life

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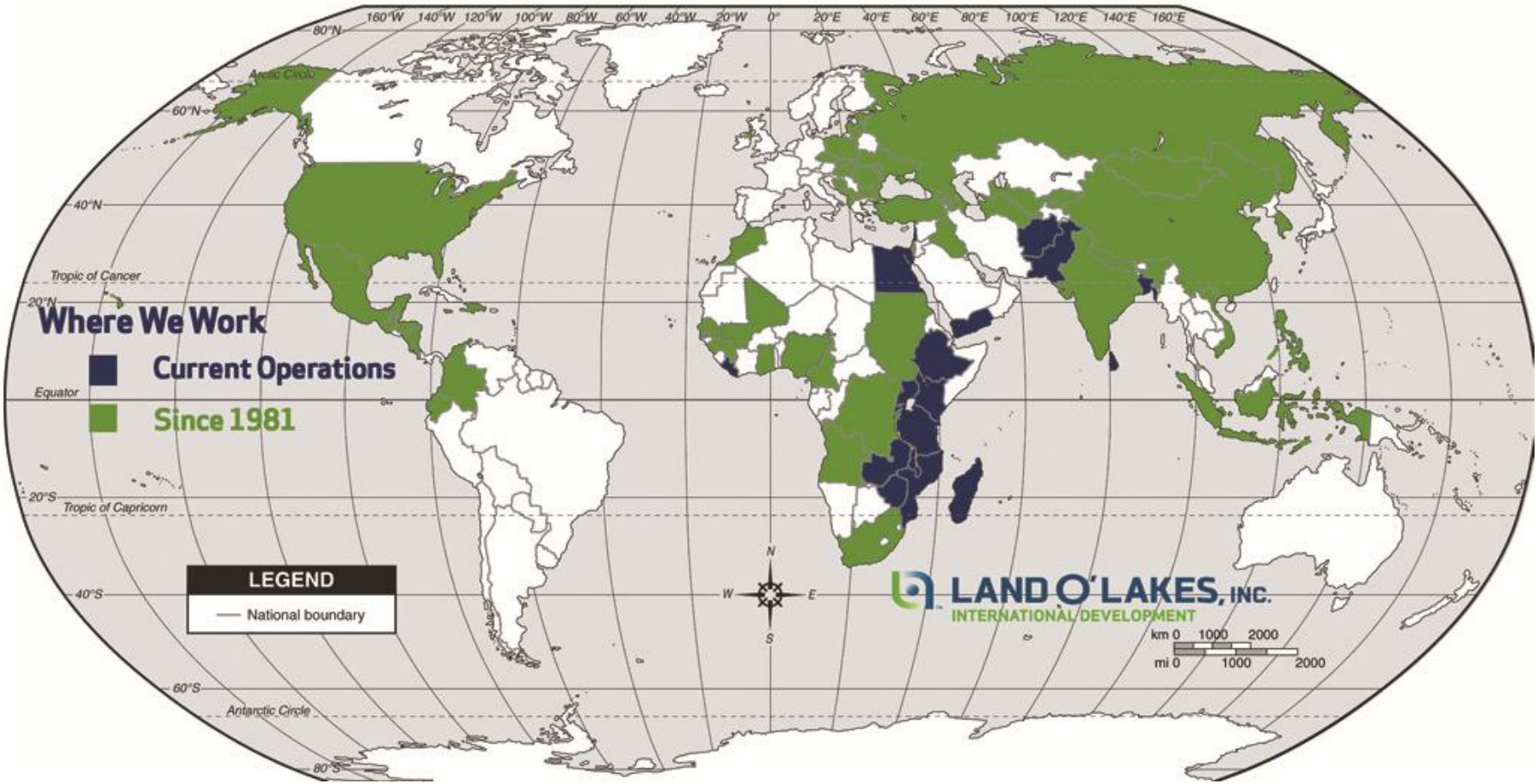

Where We Work

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Goal: Farmer resiliency to environmental and economic shocks

- Seed integration
- Improvement of household livelihoods
- Seed production documented and scaled up

USAID/OFDA Disaster Risk Reduction Project:

- 30,000 people targeted over 2 years
- Southern Province: Kazungula, Choma
- Western Province: Sesheke

Zambia Fodder Pilot Project

USAID/OFDA Disaster Risk Reduction Project:

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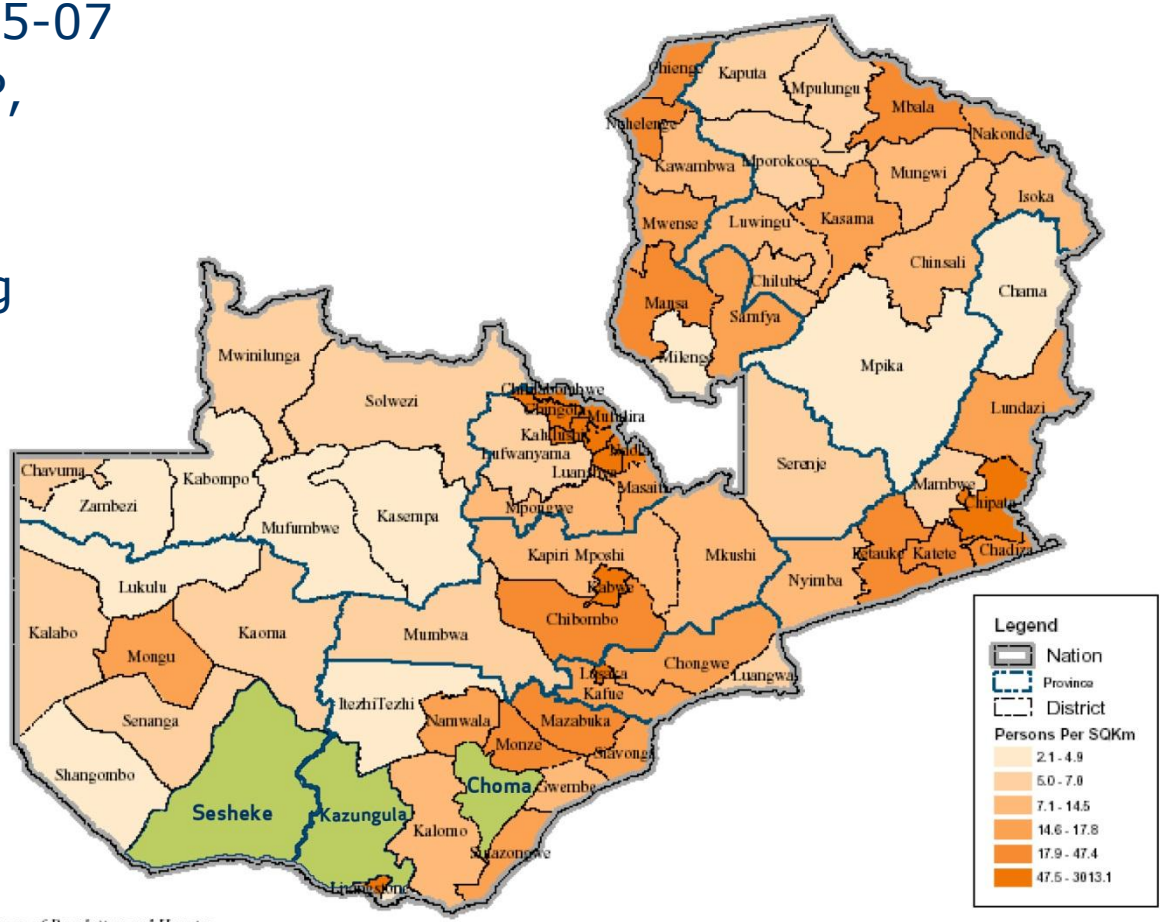
- **Drought:** 2002-03, 2005-07
- **Animal diseases:** CBPP, 2006-09
- **Flooding**
- **Rainfall:** variable timing



Source: 2000 Census of Population and Housing

Zambia Fodder Pilot Project

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Temperature:

- Mean annual temperature increase of 1.3^{o}C since 1960
- Prediction of continued drastic increases in the next 50 years

Rainfall:

- No major changes in amount, but timing changed
- Mean annual rainfall declined by 2.3% per decade
- Influenced by El Niño Events

Zambia Climate Change Context

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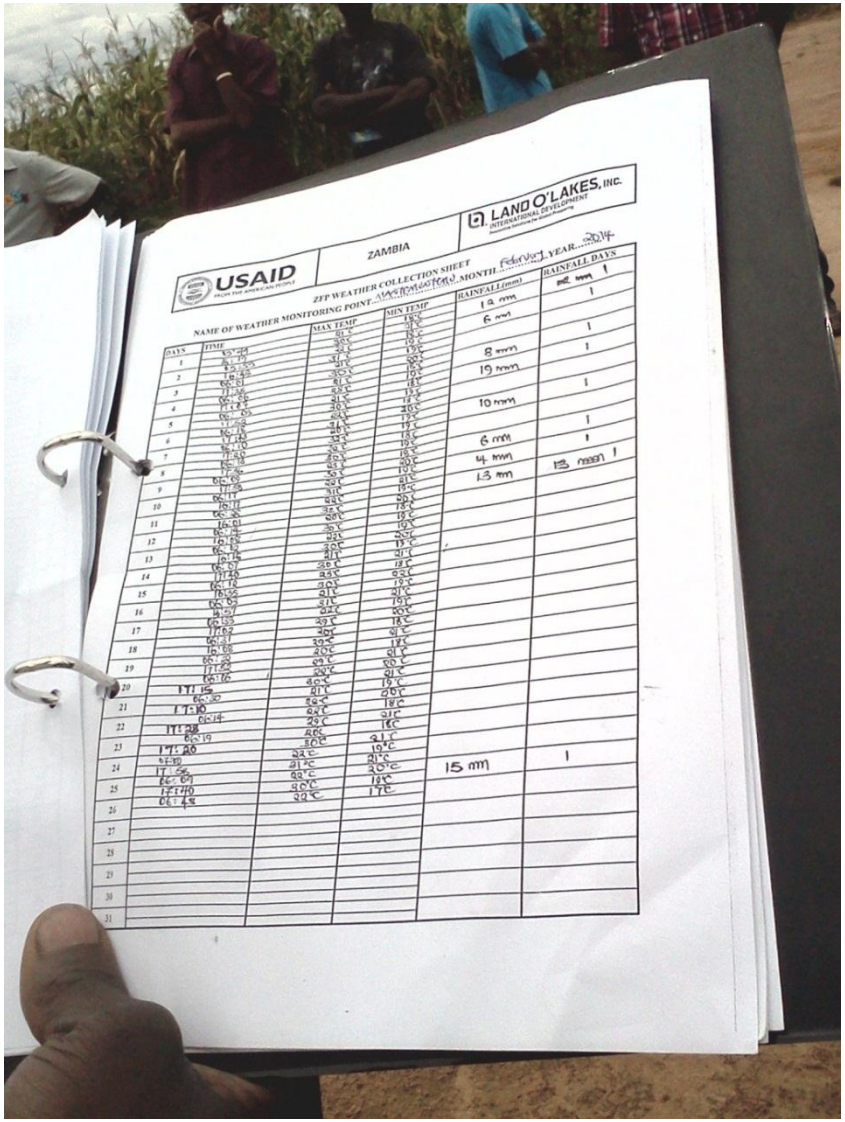
Thermometers for Maximum & Minimum Temperature Monitoring

Rain gauge

Farmer Weather Monitoring



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"I have noticed that if the temperature goes down by a degree or two, it will rain in the coming day. Now I can usually predict when it will rain."

Mr. Jethro Sianyinyite
Weather Monitoring Attendant
Manyemunyemu, Kazangula

Farmer Weather Monitoring

Opportunities:

- Weather information access
  - System that doesn't rely on weather bulletins
  - Gather context-specific information
- Understand rainfall and potential crop failure
  - Short-term: Ability to anticipate and mitigate negative impacts
  - Long-term: Ability to see the value in diversifying production and livelihoods

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Farmer Weather Monitoring

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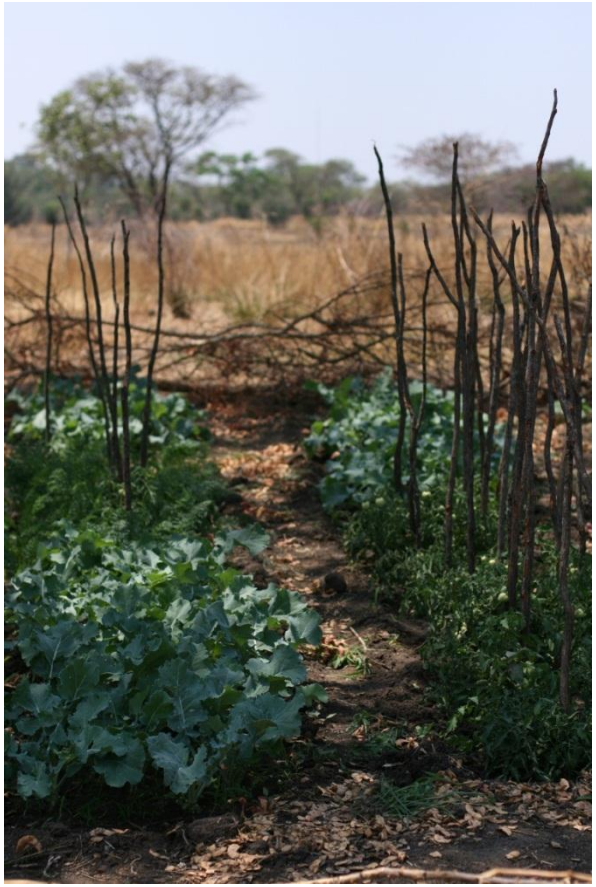
Opportunities:

- Localized data reports to Zambia Meteorological Society
- Low tech data validates high tech satellite data
  - Potential use of micro-insurance systems *if validated by ZMS*
  - Potential weather pattern database
    - Example: Impact of El Niño events



Farmer Weather Monitoring

Farmer Responses:

- After sharing weather information during agricultural meetings:
  - Farmers are voluntarily visiting to learn more & value the information
  - Asking questions:

When will it stop raining?

When will the rains start next season?

Will next season's rains be like this year's?

Can your data predict floods or droughts?

How will we receive weather information after the project ends?

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Farmer Weather Monitoring

Equipment Up-Grade?

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Stevenson Weather Screen

Opportunities for Disaster Response:

- Data collection by local Disaster Monitoring Committees
  - Prepare for response
  - Report at national, regional or international levels
- Forecasting crop harvest results
  - Prepare for deficits and take mitigation actions as needed

Next Steps:

- Expansion of weather monitoring activities
- Higher quality equipment
- Farmer Weather Field Schools linked to meteorological stations
- Expand awareness of positive mitigation options and diversification to build resilience