4. A perfect storm: climate change jeopardizes food security in Malawi, Zambia and Zimbabwe.

**Rapid population growth**

- **Malawi**
  - Population: FROM 17.3 MILLION (2018) to 45 MILLION (2050)
  - Land per farmer: FROM 0.097 ha to 0.08 ha arable land/-capita by 2050

- **Zambia**
  - Population: FROM 18.1 MILLION (2018) to 45 MILLION (2050)
  - Land per farmer: FROM 0.08 ha to 0.08 ha/-capita by 2050

- **Zimbabwe**
  - Population: FROM 14.4 MILLION (2018) to 23.9 MILLION (2050)
  - Land per farmer: FROM 0.17 ha to 0.17 ha/-capita by 2050

**Maize is key for food security**

- **Malawi**
  - Annual maize requirements: 3.5 Mt
  - Yields: 2.6 t/ha*

- **Zambia**
  - Annual maize requirements: 3.6 Mt
  - Yields: 1.7 t/ha*

- **Zimbabwe**
  - Annual maize requirements: 1.6 Mt
  - Yields: 0.66 t/ha*

**Already low yields**

- **Maize & other cereal crop yield reduced by 27% by 2090**

**High climate risks, now and in the future**

- **Severe drought and flash floods risk increase**
  - 9 droughts in last 28 years
  - Shorter, more erratic rains

**Decreased productivity projections**

- **Maize growing areas reduce by 40% by 2080**

**RANGELAND**

- **From 8 tons/ha 2019 to 5 tons/ha 2080**

**Food deficit**

- **13% to 60% 2014-2016**

**Large interannual climate variability**

- Average yields on experimental trials in southern Zambia ranged from 2.2t/ha in the El Niño year 2015/2016 to 6.9t/ha in the very good 2016/2017 cropping season

**FUTURE FOOD SECURITY**