**CROP/FARMING SUMMARY – BURKINA FASO**

**Current farming methods:**

Subsistence farming is currently relied upon by 86% of the Burkina Faso population [6]. Most farms are rainfed and are smaller than 5 ha, resulting in low agricultural productivity. While the country’s population continues to rapidly increase, Burkina Faso is projected to run out of arable land by 2030 as farmers must expand cropped land to make up for low crop output [7].

**Primary crops:** Maize (central/southern regions), Pearl Millet (northern regions), Sorghum (central/southern regions)

**Chart, treemap chart

Description automatically generatedCrop calendar [1]:**

**Water demands for each crop:**

**Table

Description automatically generated**

Table: [2]

Out of all three primary crops, maize is the least drought tolerant, followed by sorghum and millet [3]. Damages to maize crop can occur without “a significant rain event every 10 to 14 days” [4], meaning that in order to avoid potentially catastrophic crop loss, the maximum period without water should not exceed 10 days. However, predicting crop failure is not only done based on precipitation amounts, but the conditions present for all stages of that crop’s growth. The same environmental conditions can impact a crop differently depending on what growth stage it is in [4].

In current study, will design with a dry spell threshold of 5mm/day (slighter underestimation of primary crop needs).

Graphical user interface, text, application, email

Description automatically generated**Using SPI to predict crop yield loss [5]:**

Table

Description automatically generatedUsing the SPI values for various drought categories (shown in previous table), can predict the future yield loss risk for maize due to drought events (shown below).

**Sources**

[1] <https://www.fao.org/giews/countrybrief/country.jsp?code=BFA&lang=en>

[2] <https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/52227/IDL-52227.pdf>

[3] <https://biblio.iita.org/documents/S99ArtSinghRelativeInthomNodev.pdf-21f180cf00386db8c908dcf22df80731.pdf>

[4] <https://www.farmprogress.com/corn/corn-yields-will-be-limited-without-irrigation>

[5] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6341212/>

[6] <https://www.usaid.gov/burkina-faso/agriculture-and-food-security>

[7] <https://www.mdpi.com/2072-4292/9/2/132>