

Problem Statement

The highest prevalence of celiac disease is found among the Saharawi people, and there is a lack of gluten-free alternatives for those that are afflicted.^[1]

Background

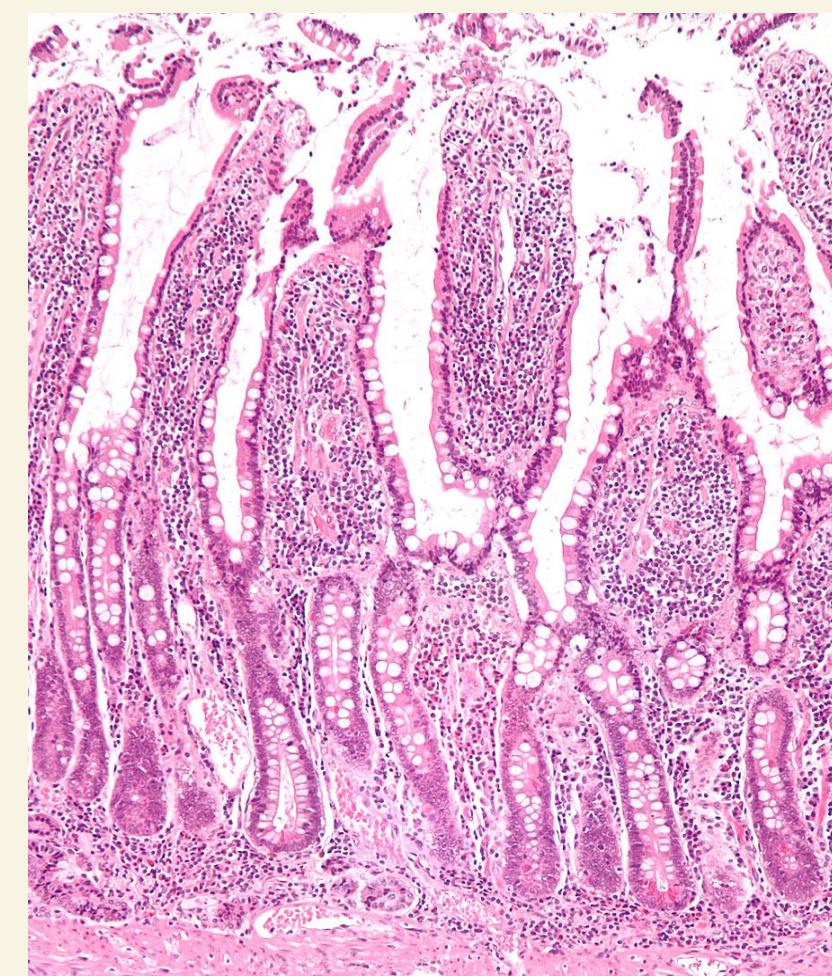
~7-8% of Saharawi people have celiac disease^[2]

100% of their food comes from aid^[3]

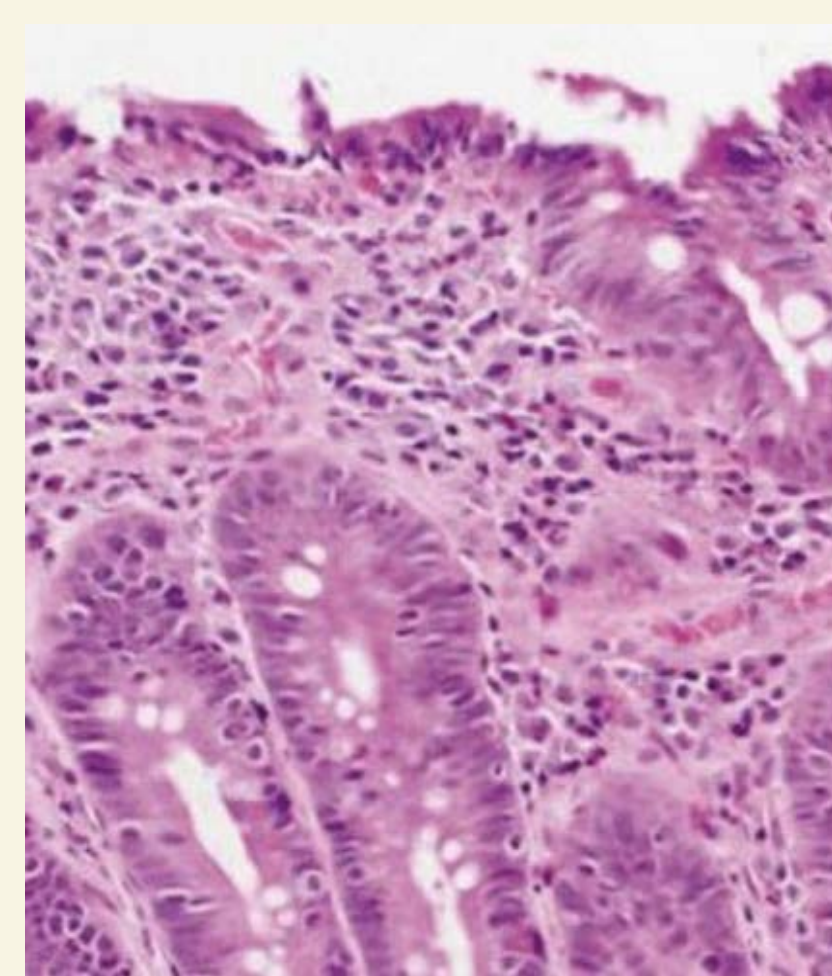
90% of their diet is gluten-based^[4]

Celiac disease damages the small intestine.

Normal^[5]



Celiac Disease^[6]



Political conflict drove the Saharawi people out of West Sahara in the 1970s and into refugee camps in Algeria.

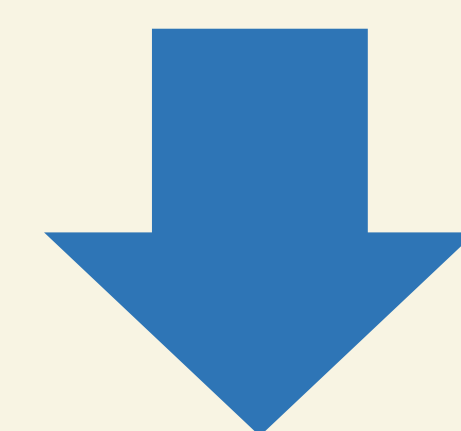
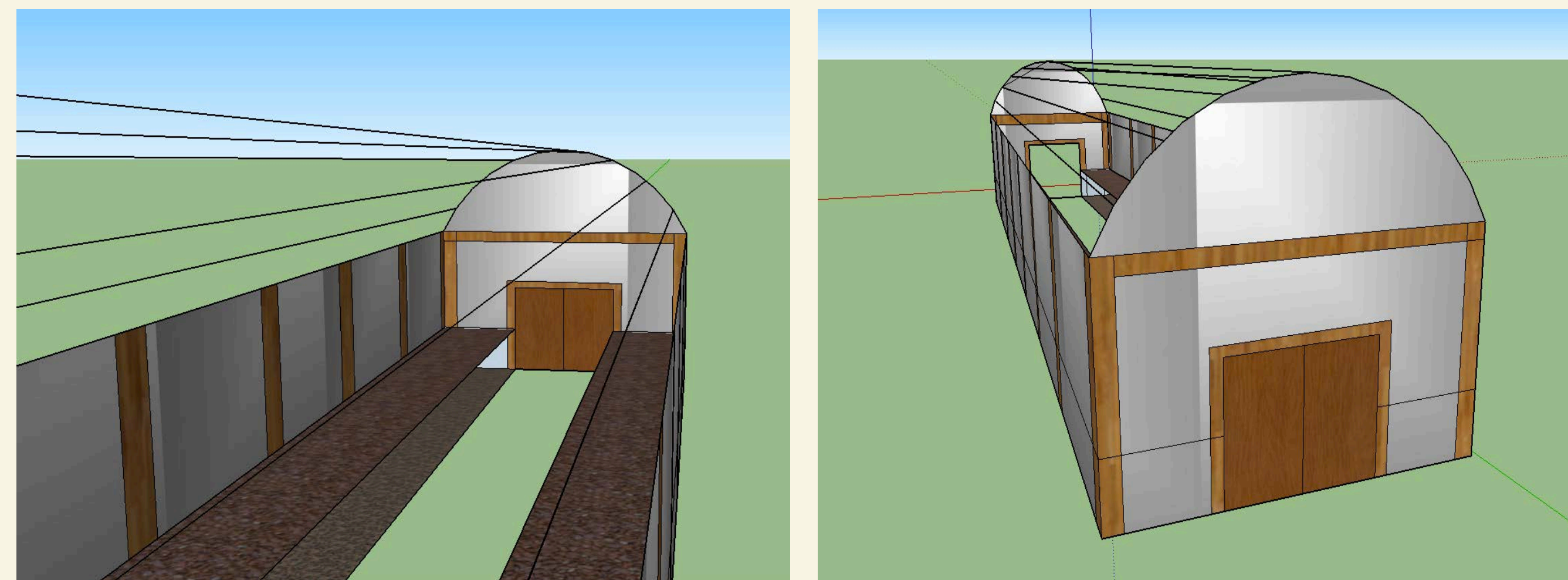


Copyright European Commission DG ECHO. 22 February, 2012 “The Saharawi Refugee – a forgotten crisis in the Algerian Desert”

Solution Approach

Designed hoop house for arid conditions

(Computer generated models)



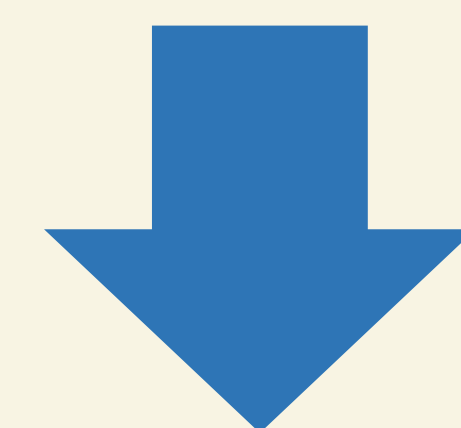
Chose gluten-free wheat substitutes to grow inside



Amaranth^[7]



Millet^[8]

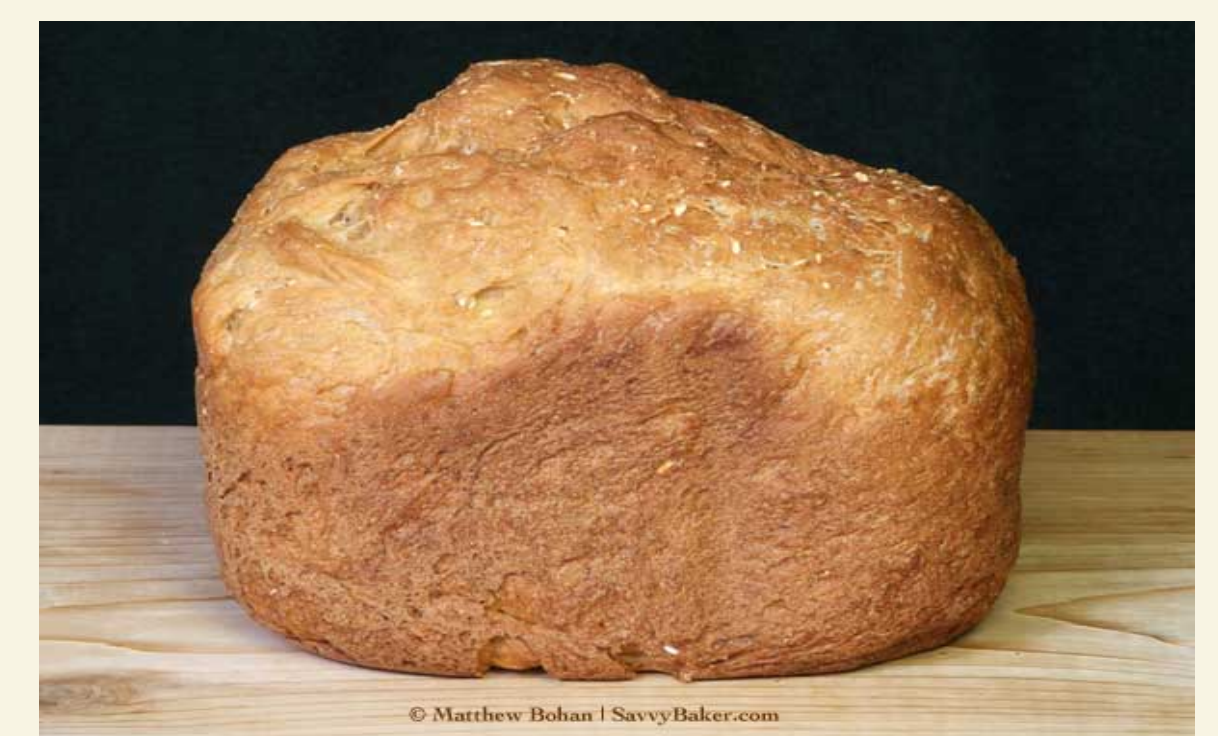


Developed alternative food sources

1 hoop house provides 400 lbs. of wheat substitute per year



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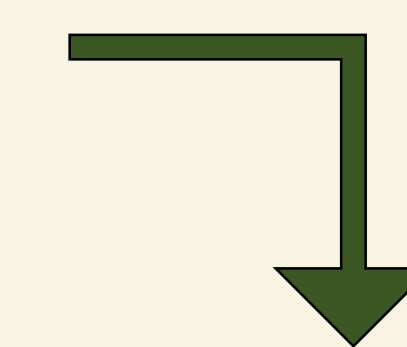


400 lbs. of millet & amaranth^[9]

400 loaves of gluten-free bread^[10]

Discussion

NGO provides materials and guidance



Hoop houses grow millet & amaranth

Supports healthier lifestyle

More gluten-free alternatives are available

Saharawi people are more independent

References

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