

Background

Asili

A check dam is a method of irrigation that allows water to be captured and stored in individual ponds while reducing runoff. The design presented in this brochure will illustrate the steps that need to be taken to properly design a robust and functioning check time on your farm.

Angalia bwawa ni njia ya umwagiliaji ambayo inaruhusu maji kutekwa na kuhifadhiwa katika mabwawa ya kibinafsi wakati wa kupunguza kukimbia. Ubunifu unaowasilishwa katika brosha hii utaonyesha hatua ambazo zinahitaji kuchukuliwa ili kubuni vizuri wakati mzuri wa kuangalia na kufanya kazi katika shamba lako.

Our Team

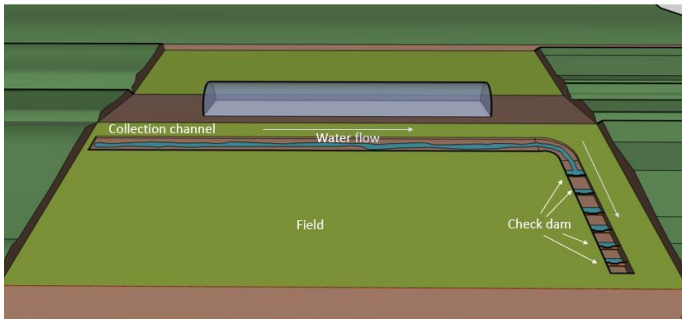
American students from
Colorado School of Mines

Carlos Diaz: electrical engineering
Emily Jones: environmental engineering
Jacob Kohl: civil engineering
Elena Lundeen: civil engineering
Anli Ni: civil engineering
Brenna Treanor: civil engineering

Contact Info

Email: entusimodelfarm@gmail.com
Jacob's WhatsApp: +1(719)271-3378

Check Dams for Irrigation



Sizing and Calculations

Construction and Materials

Maintenance

For ¼ acre model farm with **7 dams**, dam dimensions are:

Max Depth (m)	Base width (m)	Top width (m)
0.6	0.6	3

Area (m ²)	70 (~7% of plot)
Volume (m ³)	43.6

*Sizing differs with plot dimensions and slope of land. These dimensions only apply to the model farm, but the land usage should stay fairly consistent.

Rock



Cinder Blocks



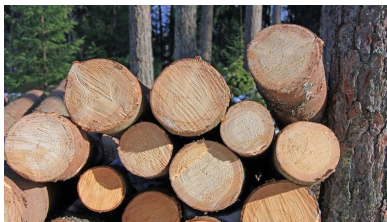
Bamboo



Mortar

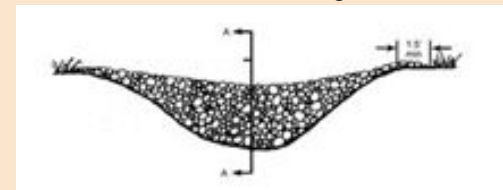


Wood



During Construction:

- Dam sides should be higher than center.



- Place heavier stones at base and downstream.
- Do not construct in an active waterway.

After rain event:

- Inspect check dams and drainageway for damage immediately after rain.

Ongoing Maintenance:

- Remove sediment often, but no later than when the sediment is ½ the height of the dam.
- Maintain design height, cross-section, and flow-through characteristics.
- Keep the check dam free of weeds.

