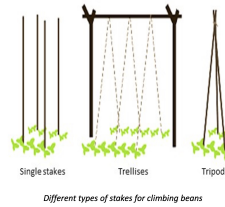


# Low-Cost Staking for Climbing Beans

Empowering Beans, Sustaining Growth!

The Low-Cost Staking practice provides affordable solutions for supporting climbing bean cultivation, aiming to reduce reliance on wooden stakes and mitigate deforestation caused by their overharvesting.



This technology is **TAAT1 validated**.

**8•8** Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment **4**

Climate impact **7**

## Problem

- Farmers face expense issues with plant support, leading to yield losses.
- Shortage of wooden stakes affects plant density and yield.
- Overharvesting of stakes harms forests and afforestation efforts.
- Knowledge of optimal density and stake length varies with method.

## Solution

- Offers farmer-acceptable, lower-cost staking innovations.
- Utilizes tripod arrangements and string trellises to reduce wooden stakes.
- Recommends the use of agroforestry species and tall grasses for stakes.
- Improved yield and climbing bean production.

## Key points to design your project

- The technology reduces bean cultivation costs, aiding poverty alleviation among small-scale farmers.
- It boosts food security with improved yields and creates job opportunities in rural areas.
- By promoting eco-friendly practices, it reduces reliance on deforestation for stakes and supports sustainability.
- Steps to integrate the technology include raising awareness, disseminating information, ensuring access to loans, and collaborating with agricultural institutions.
- Consider integrating complementary technologies for enhanced efficiency.

Cost: **\$\$**

|   |  |  |   |  |
|---|--|--|---|--|
| <b>300 %</b><br>Increase in yields compared to bush beans | <b>20,000—50,000</b><br>stakes per hectare<br>Staking density for highest yields | <b>2 meters</b><br>Height of stakes for highest yields | <b>~200,000</b><br>plants<br>Plant population per hectare | <b>IP</b><br>Open source / open access |
|---|--|--|---|--|

Alliance

**The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)**  
Justin Mabeya Machini

Technology originally documented by **ProPAS**

Commodities  
Common bean

Sustainable Development Goals

Categories  
Production, Practices, Yield improvement, Production system

Best used with  
• [Climbing Bean with High Yield and N Fixation >](#)

Tested/adopted in

■ Tested & adopted  
■ Adopted  
■ Tested

Where it can be used

This technology can be used in the colored agro-ecological zones.

