Participatory Climate Smart Villages for Green Growth in Ethiopia

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Background

Climate change and food security are two of the most pressing challenges in Ethiopia, and they cannot be tackled in isolation from each other. This project adopted agro-ecosystem based "climate-smart landscape management", prioritizing adaptation measures to achieve food security, reduce land degradation, and improve water management, while reaping potential mitigation co-benefits. The project aims to increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation), and enhances achievement of food security by establishing Climate Smart Villages (CSV).

CSVs are sites where researchers, local partners, and farmers collaborate to evaluate and maximize synergies across a portfolio of climate-smart agricultural interventions to meet food security and protect the natural resource base.

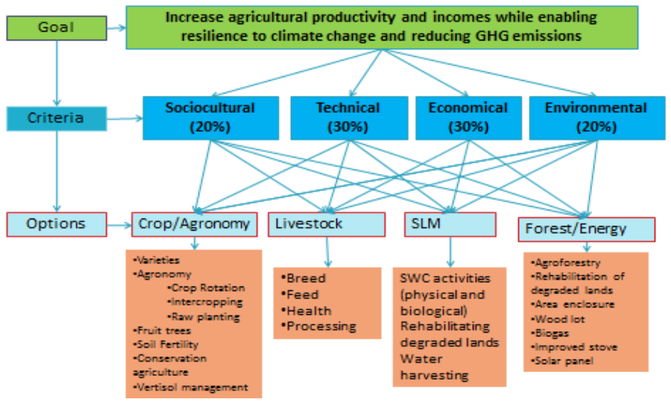
Objectives

The project aims to demonstrate how early action on Climate-Smart Village can act as a driver of green growth in the Blue Nile through

- Institution: introducing green technologies to technology-impoverished (subsistence) communities through a locally-owned business model institution (CSV),
- Capacity Building: sustaining community-based education and awareness on green Economy via establishing local institutions, and
- Demonstration: increase the rate of innovative green technologies by a holistic approach

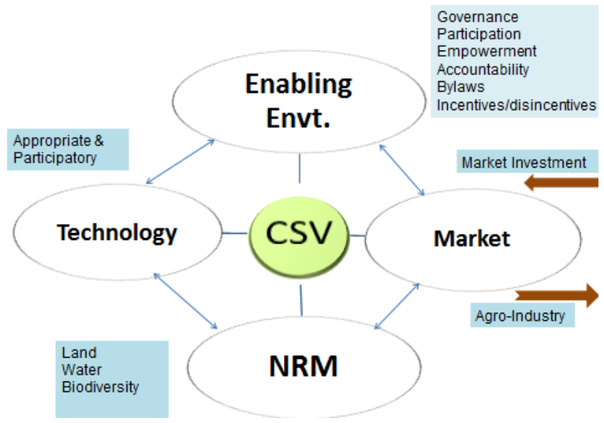
Method

- A multi-criteria decision-making process (MCA) to determine the best climate smart agriculture components.
- data was collected mainly farm households and *Wereda* level experts



Results

. Setting up Climate-Smart Village



Summary of prioritized CS technologies by AES

- 1st priority: technologies that obtain a 80% score & more) in aggregate (Green);
- 2nd priority: technologies that obtain a 65% score (or more (Yellow); and
- 3rd priority: technologies that obtain a 50% score and above (Brown and above)

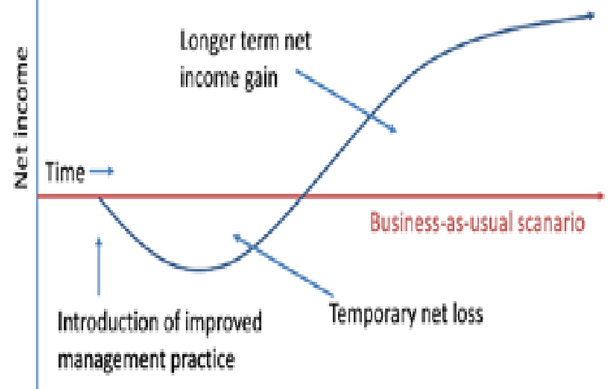
Sector	Category	Technologies	AgroEcosystem					
			AES 1	AES 2	AES 3	AES 4	AES 5	Average
Crop	Improved Variety	Cereals	3.4	4.1	3.8	4.0	3.8	**3.8**
		Pulses	3.2	3.7	3.6	3.6	3.8	**3.6**
	Agronomy	Intercropping with legumes	4.3	2.4	3.5	3.4	3.7	**3.5**
		Crop rotations	4.7	4.0	3.7	3.7	4.1	**4.0**
		Improved storage	3.4	3.5	3.3	3.3	3.4	**3.4**
		Row planting	4.4	3.5	3.8	3.9	3.9	**3.9**
	Farming tools	Aybar Maresha/Conservation Agr	4.4	3.5	4.6	4.6	3.3	**4.1**
		Broad Bed Maker (BBM)	2.1	4.4	2.9	2.5	2.3	**2.8**
		Raw planter	2.3	3.5	3.6	3.3	3.6	**3.3**
		Thresher	3.3	4.7	4.7	3.2	3.5	**3.9**
	Home gardens	Vegetables	3.6	2.8	3.5	3.6	3.9	**3.5**
		Fruit Trees	4.6	3.7	3.2	3.5	4.0	**3.8**
		Drip irrigation	3.6	3.7	3.2	2.5	3.0	**3.2**
Livestock	Animal Feed	Cut and carry	2.4	3.9	3.5	3.8	4.0	**3.5**
		Manure treatment	2.2	3.6	3.4	2.4	2.3	**2.8**
		Rotational grazing	3.2	3.7	3.2	3.5	3.9	**3.5**
		Fodder crops	2.3	2.9	3.4	3.7	4.0	**3.3**
		Fattening	3.5	4.1	2.8	2.9	2.9	**3.2**
SLM	Physical Measure	Terraces	4.5	2.0	2.6	4.2	4.3	**3.5**
		Faniaju	3.0	3.0	3.4	3.8	3.8	**3.4**
		Stone bunds	4.5	2.4	3.4	3.7	3.9	**3.6**
		Soil bunds	3.1	2.0	3.5	4.0	3.8	**3.3**
	Biological Measure	Alley cropping/hedge row	4.4	2.4	3.5	4.2	4.5	**3.8**
		Vetiver strip	3.1	3.6	3.3	3.6	3.7	**3.5**
		Rehabilitating degraded lands	3.0	3.9	3.4	4.6	4.9	**4.0**
		Contour planting	4.1	2.3	3.3	4.6	4.7	**3.9**
		Composting	4.1	2.9	4.2	4.3	4.5	**4.0**
Forestry & Energy	Forestry	Reforestation	3.4	4.1	3.7	3.9	4.0	**3.8**
		Boundary trees and hedgerows	4.2	3.9	3.6	3.8	3.9	**3.9**
		Multipurpose trees	3.2	4.0	3.5	3.7	3.8	**3.6**
		Woodlot	2.0	4.0	4.1	4.0	4.2	**3.7**
		Fruit orchards	4.2	2.3	3.4	3.5	4.3	**3.5**
	Energy	Improved stoves	3.3	3.9	3.7	3.8	4.0	**3.7**

Actions ahead

- Establishing additional voluntary local **institutions** (CIPs);
- **Empowering community** members
- Provide **technology and investment opportunities**;
- Improved productivity and **market** mechanisms;
- Mainstreaming **natural resource management** as a community-level issue
- Build the CSV members capacity towards more efficient environmentally sound green technologies such as water harvesting, biogas, composting and irrigation technologies such as drip irrigation for **sustainability and scale-ability**.

Lessons learnt

- CSA is both knowledge and capital intensive.
- Subsistence farmers find it hard to innovate and invest in better management systems.
- Many CSA practices incur establishment and maintenance costs and
- it can take considerable time before farmers benefit from them (3-5 years).



Short term income losses often inhibit smallholders from investing in management practices that provide long term benefits

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