



Environment and Forest Certification (T) Limited

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# Implementation of charcoal certification in CBFM areas in Tanzania

Tanzania Forest Conservation Group (TFCG)

12 April 2022

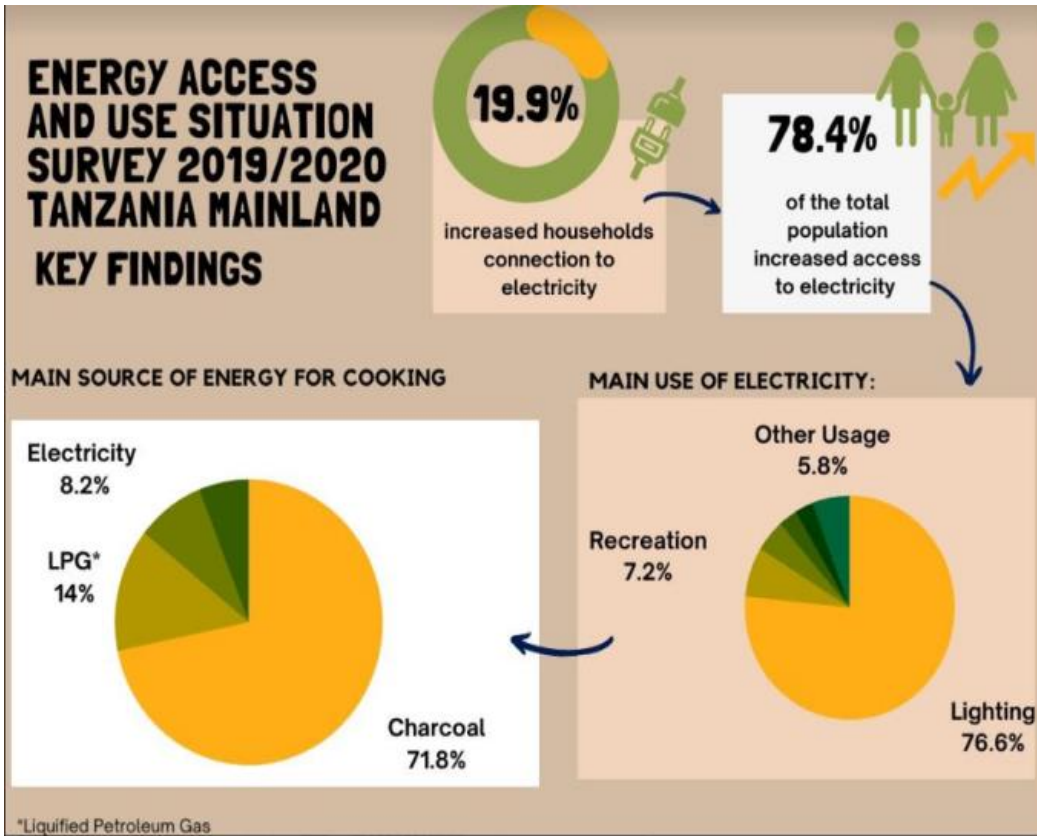
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- Methods
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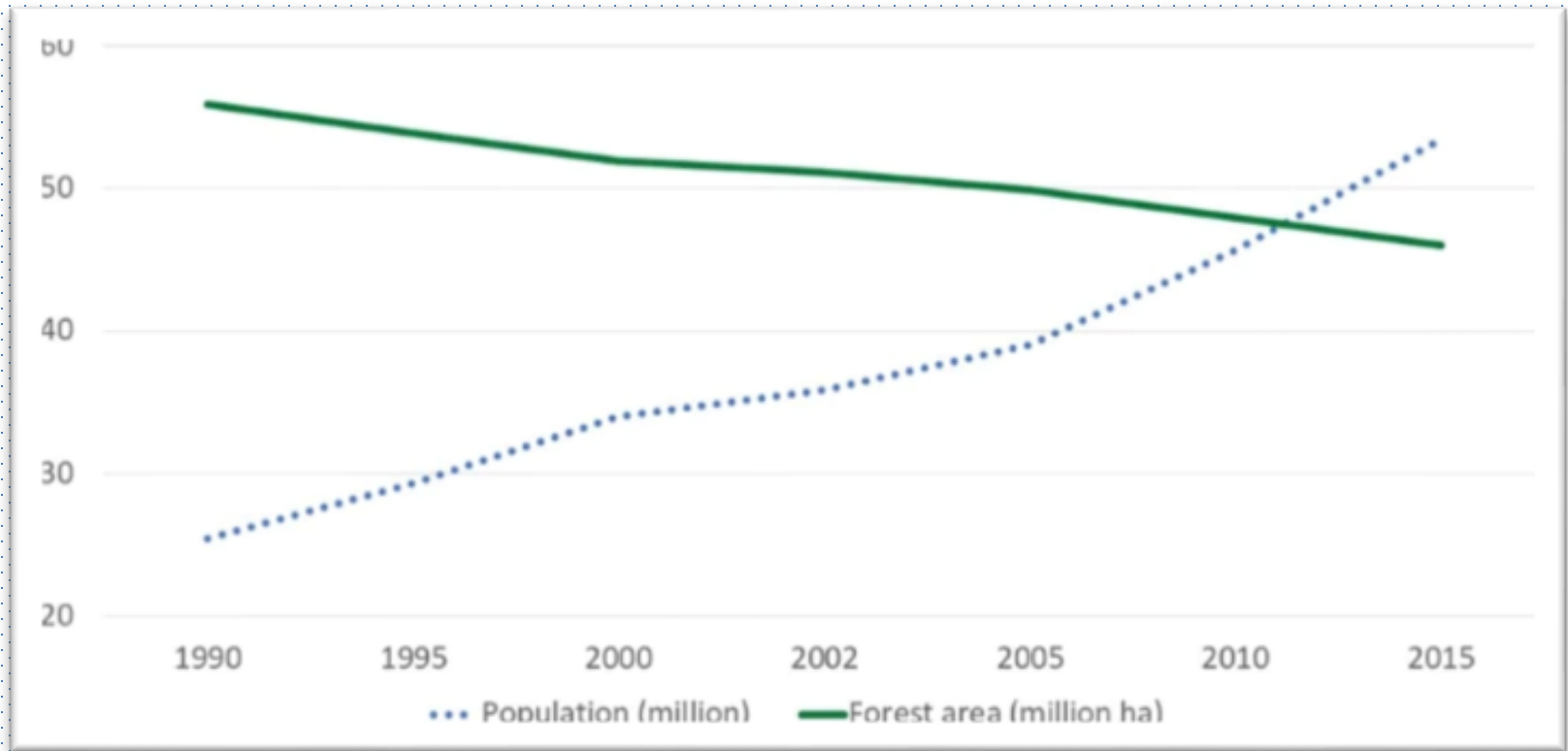
# Study Overview

- ✓ Background
- ✓ Objectives

# Study Overview: Background



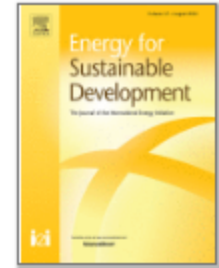
Forest area and population in Tanzania 1990–2015







## Energy for Sustainable Development

Volume 57, August 2020, Pages 200-213



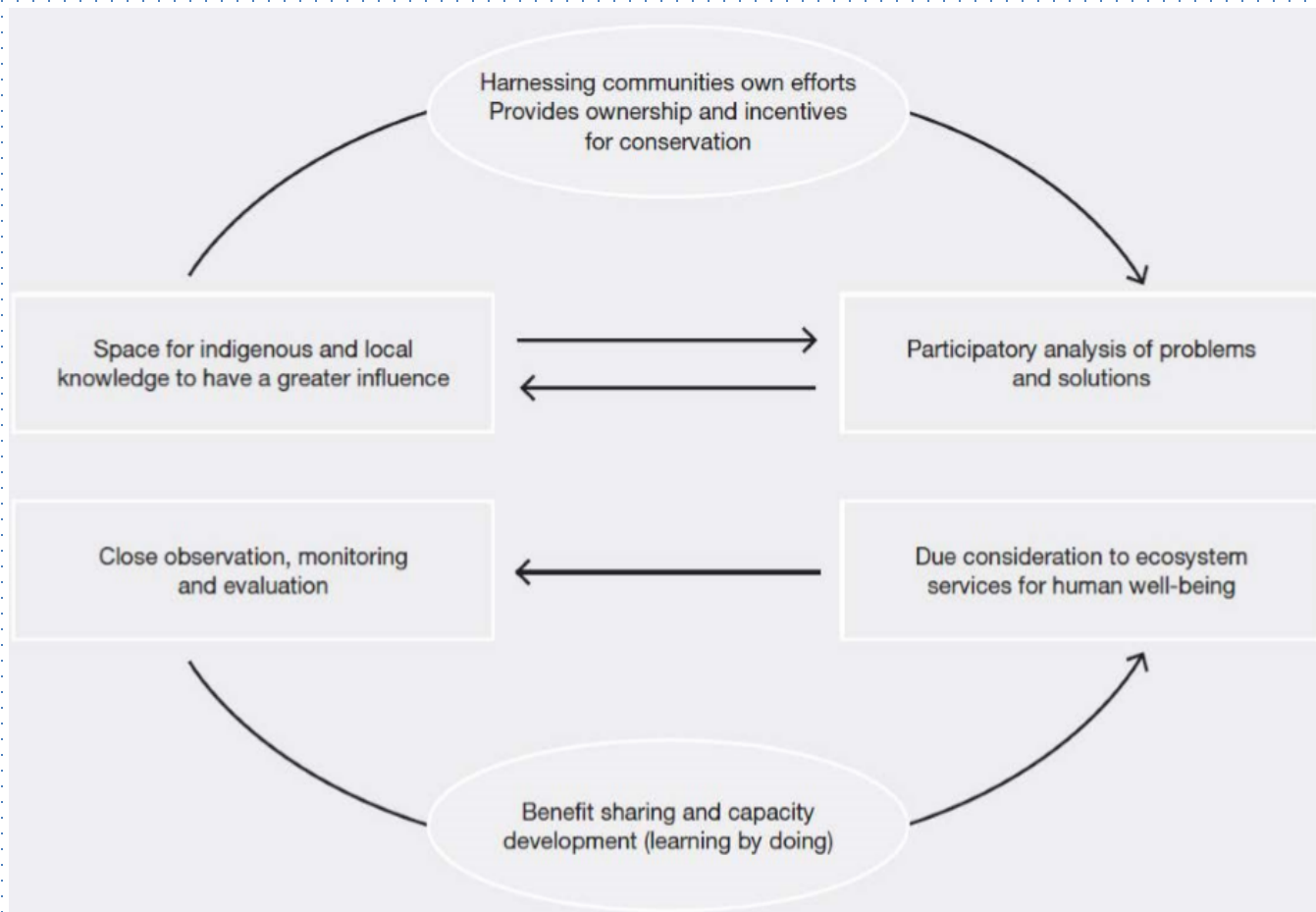
# The influence of energy policy on charcoal consumption in urban households in Tanzania

Nike Doggart <sup>a, b</sup>  , Remidius Ruhinduka <sup>c</sup>, Charles K. Meshack <sup>b</sup>, Romanus C. Ishengoma <sup>d</sup>,  
Theron Morgan-Brown <sup>b</sup>, Jumanne M. Abdallah <sup>d</sup>, Dominick V. Spracklen <sup>a</sup>, Susannah M. Sallu <sup>a</sup>

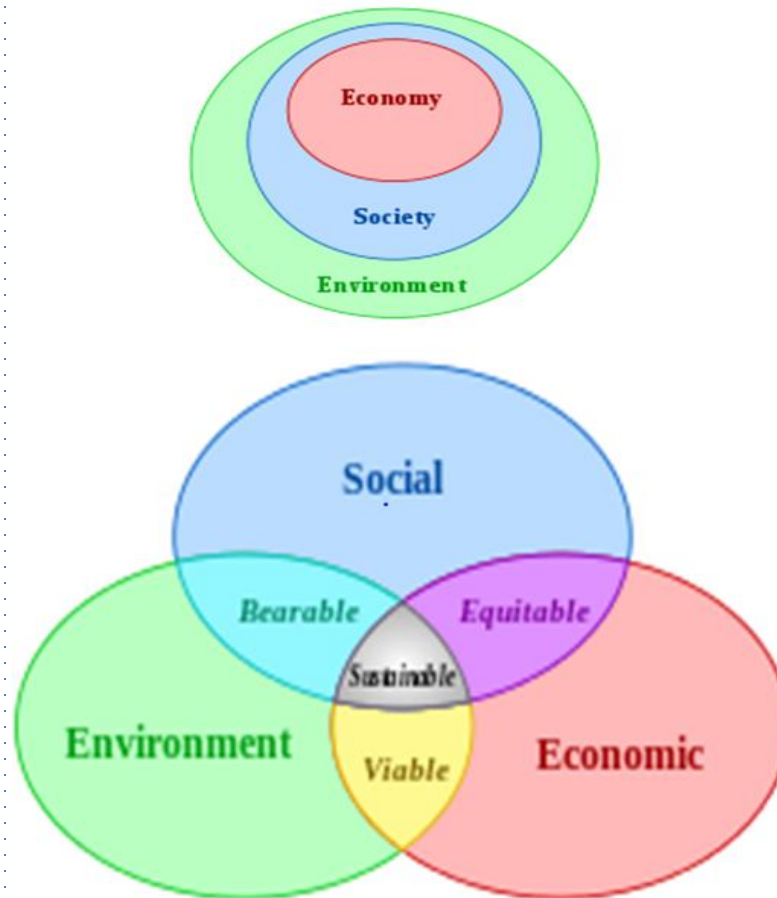
# Study Overview: Background

## CBFM: Ideal Approach for Sustainable Charcoal Production?

Characteristics of community-based natural resource management



# Study Overview: Background





# Study Overview: Background

## Certification and Standards


**FSC ADDRESSES 14 OF THE 17 UN SUSTAINABLE DEVELOPMENT GOALS**  
covering ecological and social issues in forests around the globe




## Implementation of charcoal certification in CBFM areas in Tanzania

### Main objective:


Generating knowledge to inform the implementation of charcoal certification in CBFM areas in Tanzania



To assess the feasibility of linking FSC - NFSS with TBS compulsory standards



To investigate and present options for a TBS standard on charcoal kilns, production, quality and species for SCP

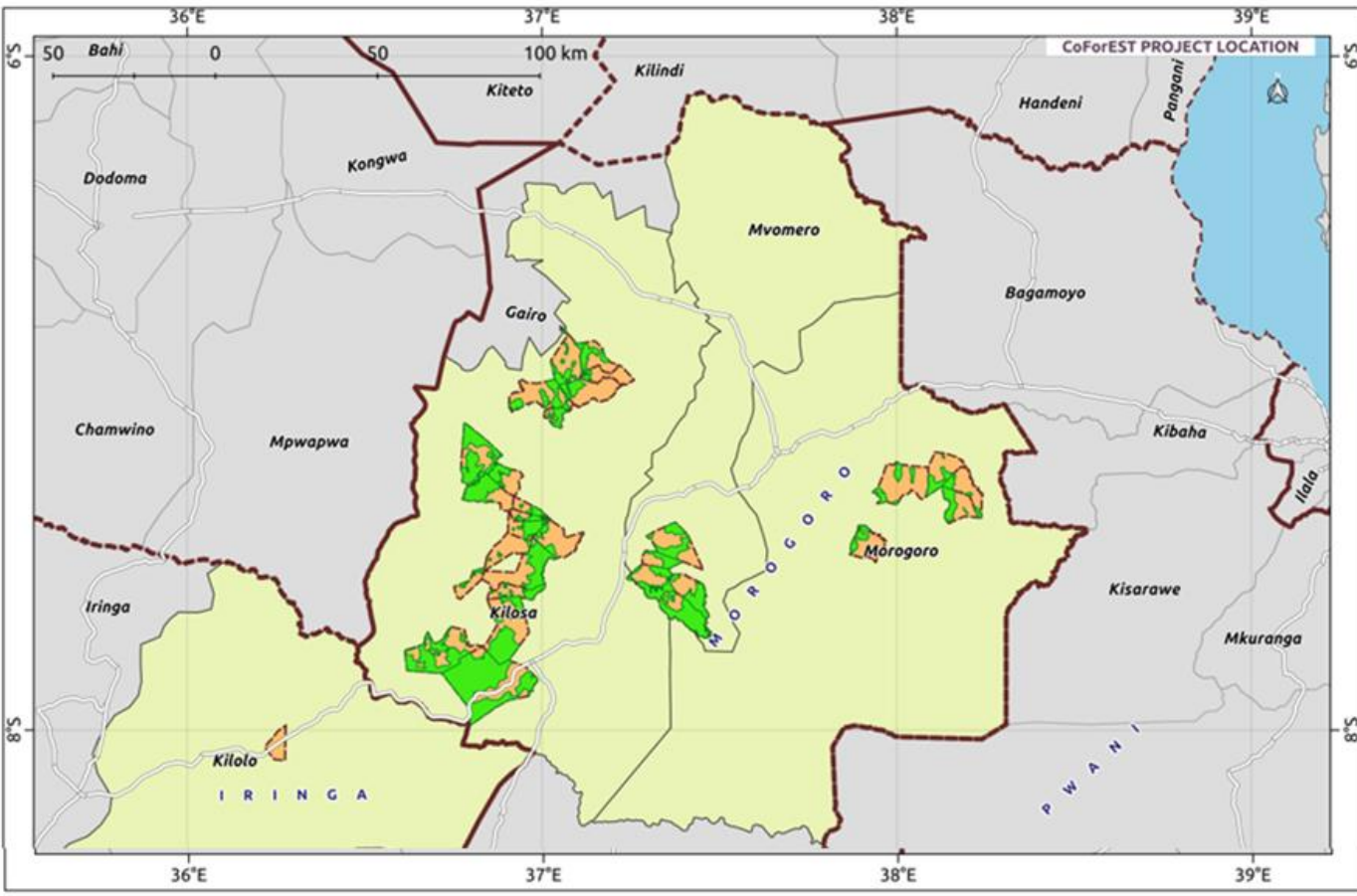


To assess the feasibility and profitability of applying TBS Standard TZS 1312:2010 to sustainable charcoal produced in in the project area

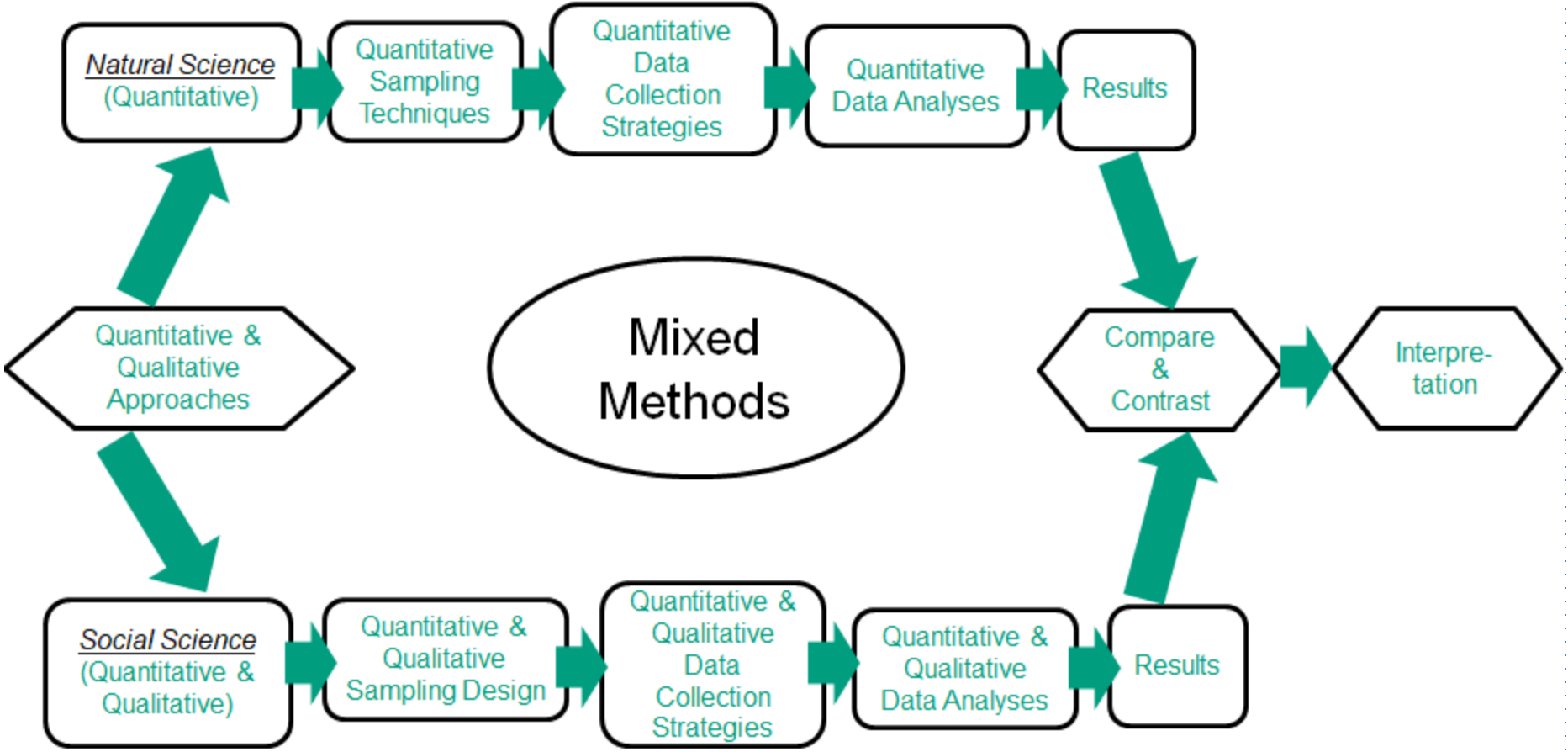


To recommend measures that could be taken by the project partners and stakeholders to promote progress on charcoal certification

# Study Overview: Study Sites



# Methods



# Methods

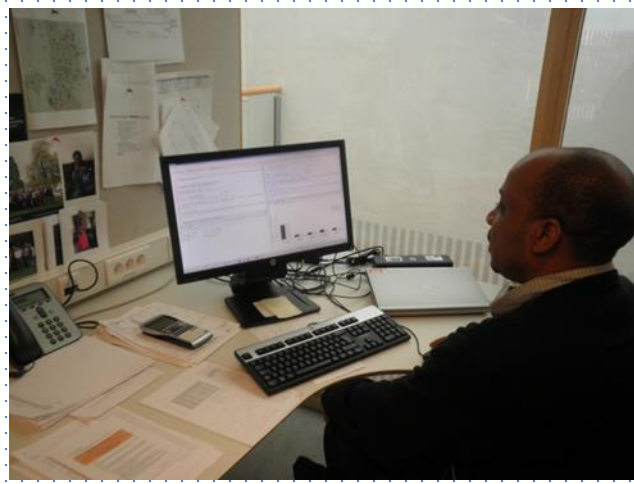
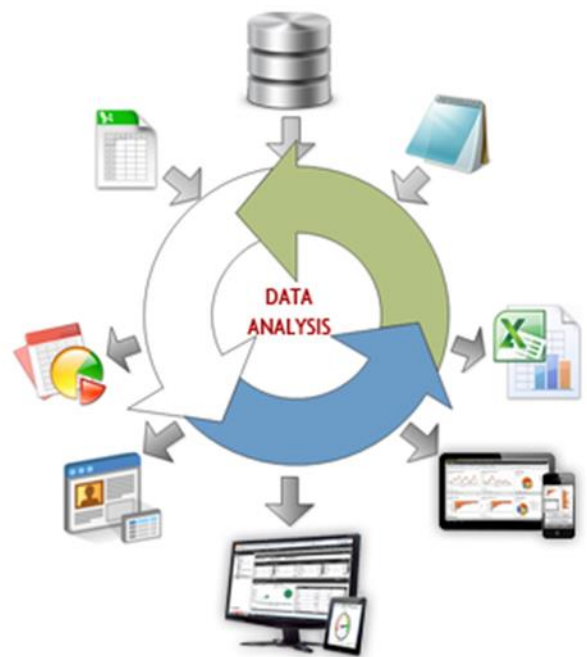


Observation

Interview

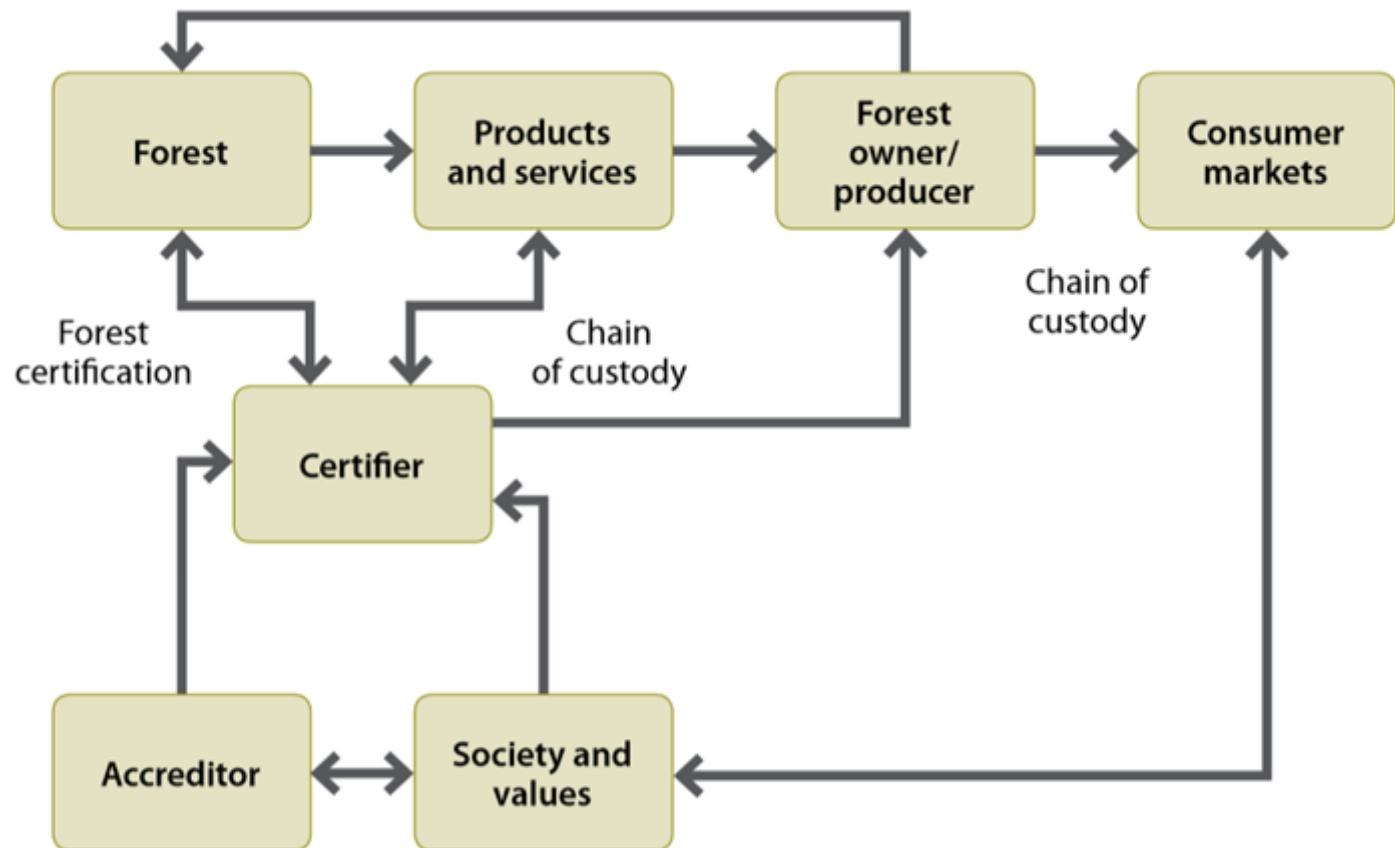
Questionnaire

Database



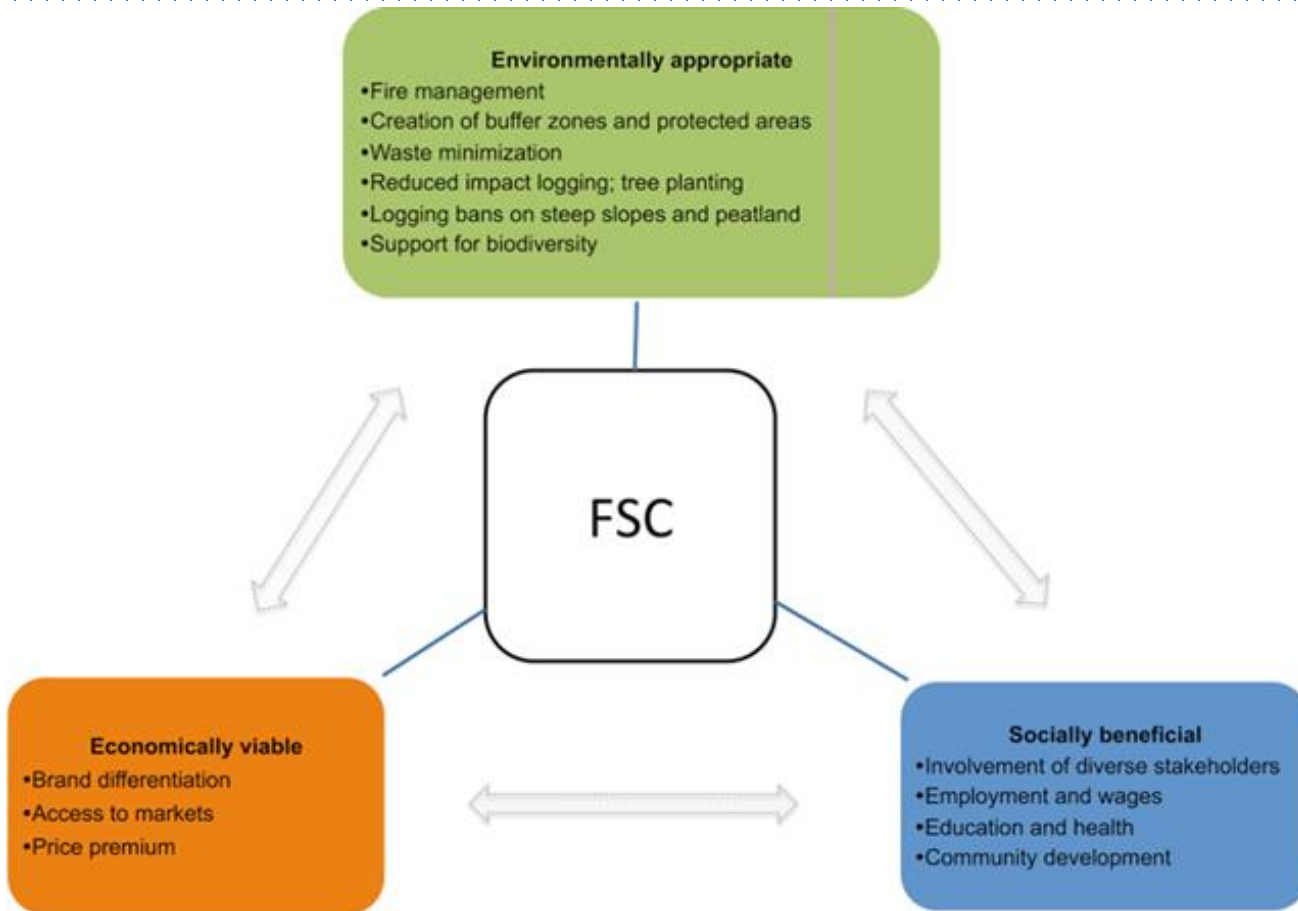
The feasibility of linking FSC - NFSS with TBS compulsory standards with a detailed focus on the charcoal value chain (institutions, processes) - I

Components - Implementation of certification



The feasibility of linking FSC - NFSS with TBS compulsory standards with a detailed focus on the charcoal value chain (institutions, processes) - I

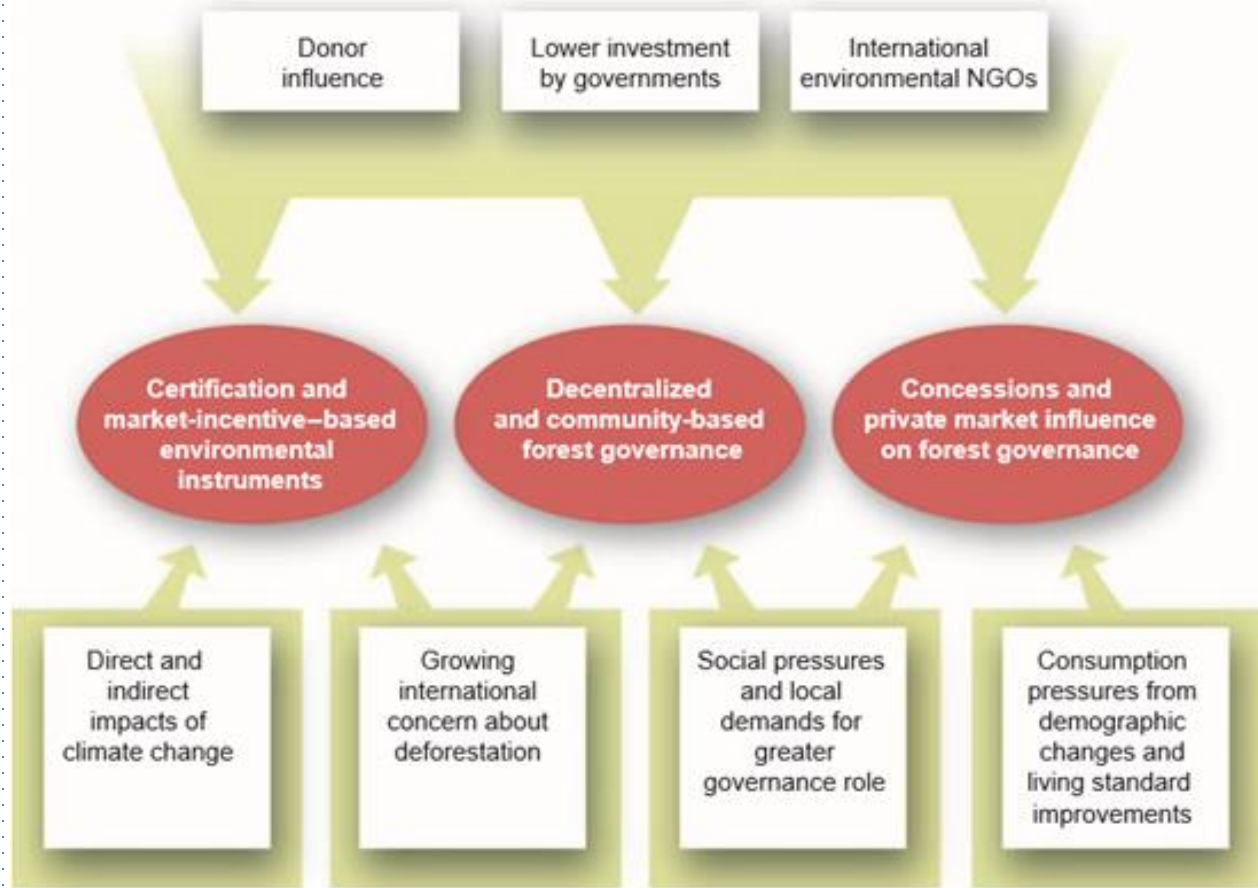
## Impacts of FSC certification implementation



# Results

The feasibility of linking FSC - NFSS with TBS compulsory standards with a detailed focus on the charcoal value chain (institutions, processes) - I

Changes in forest governance and their social, economic, and political drivers

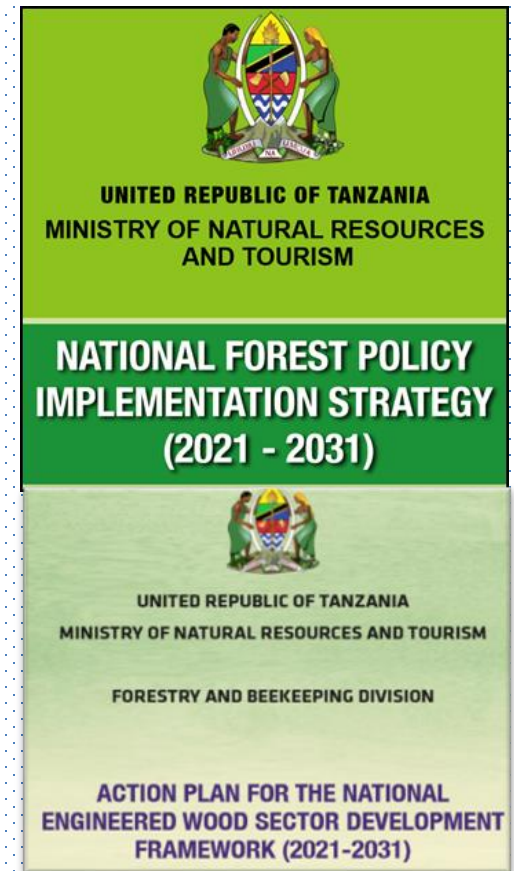




# Results

The feasibility of linking FSC - NFSS with TBS compulsory standards with a detailed focus on the charcoal value chain (institutions, processes) - I

The *'status quo'* of certification implementation in Tanzania's context



Options for a TBS standard on charcoal kilns, production, quality and species for sustainable charcoal production - II

## Efficiencies of various types of kilns

Characteristics	Traditional Kilns (a)	Improved Kilns (b)	Semi-industrial Kilns (c)	Industrial Kilns (d)
Conversion Technology				
Efficiency	8-12%	12-18%	18-24%	25-33%
Production of 1 kg of charcoal from	8- 12 kg wood	6 – 8 kg wood	5 – 7 kg wood	3 – 4 Kg wood

FAO, 1985. Industrial charcoal making;

GIZ, 2011. Charcoal Production;

WB, 2010. Environmental crisis or sustainable development opportunity?

Transforming the charcoal sector in Tanzania

Options for a TBS standard on charcoal kilns, production, quality and species for sustainable charcoal production - II

Effects of Carbonization Temperature on Charcoal Yield and Composition

Carbonization Temperature	Chemical Analysis of Charcoal		Charcoal Yield based on oven-dry weight (%)
	Fixed Carbon (%)	Volatile Matter (%)	
300	68	31	42
500	86	13	33
700	92	7	30

# Results

Options for a TBS standard on charcoal kilns, production, quality and species for sustainable charcoal production - II

## TBS Quality Management principles



# Results

Options for a TBS standard on charcoal kilns, production, quality and species for sustainable charcoal production - II

Current charcoal production - improved earth mound kiln in Kilosa

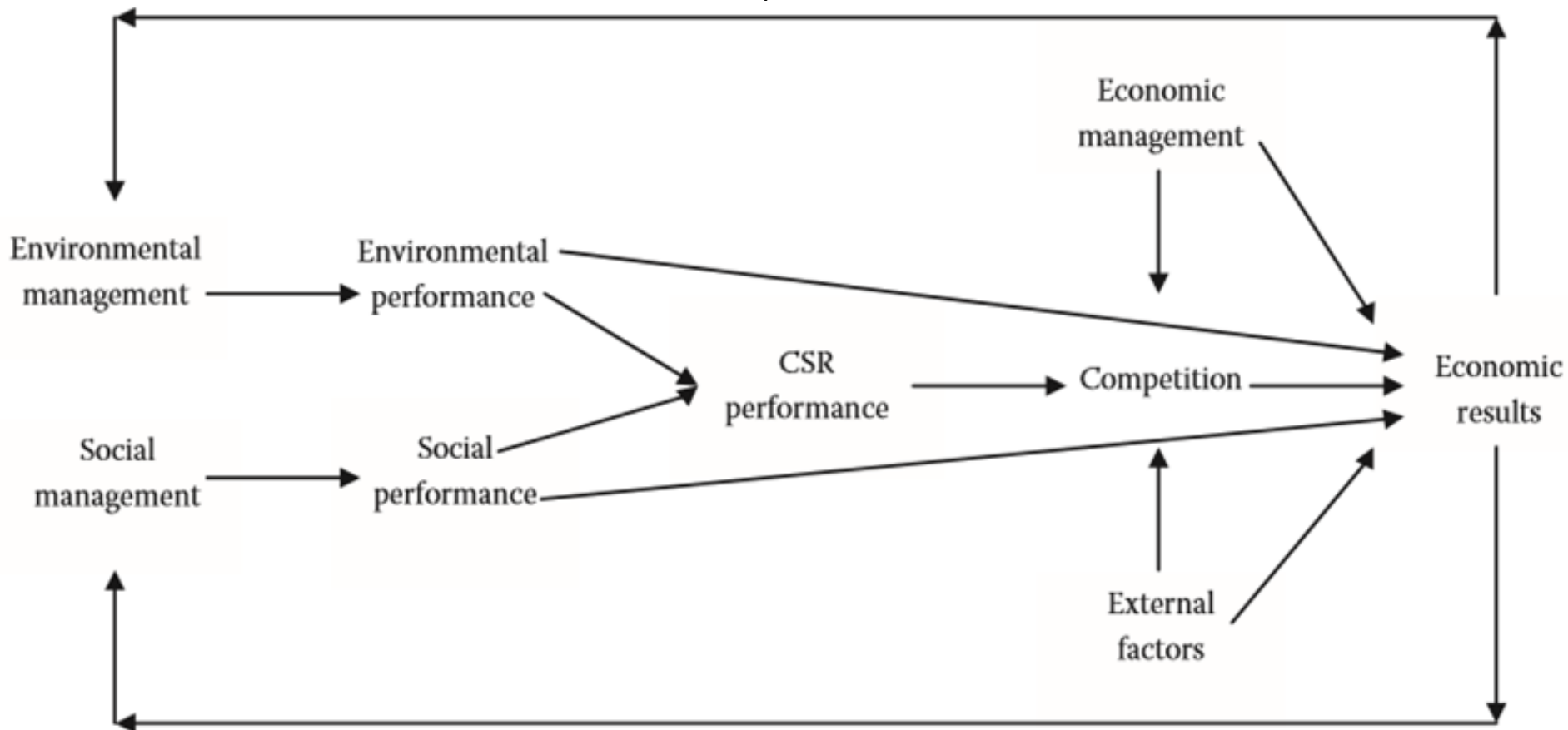


The study investigated the current process used for charcoal production in sampled sites to identify actors' need for TBS standards

# Results

The feasibility and profitability of applying of TBS Standard TZS 1312:2010 to sustainable charcoal produced in the project area - III

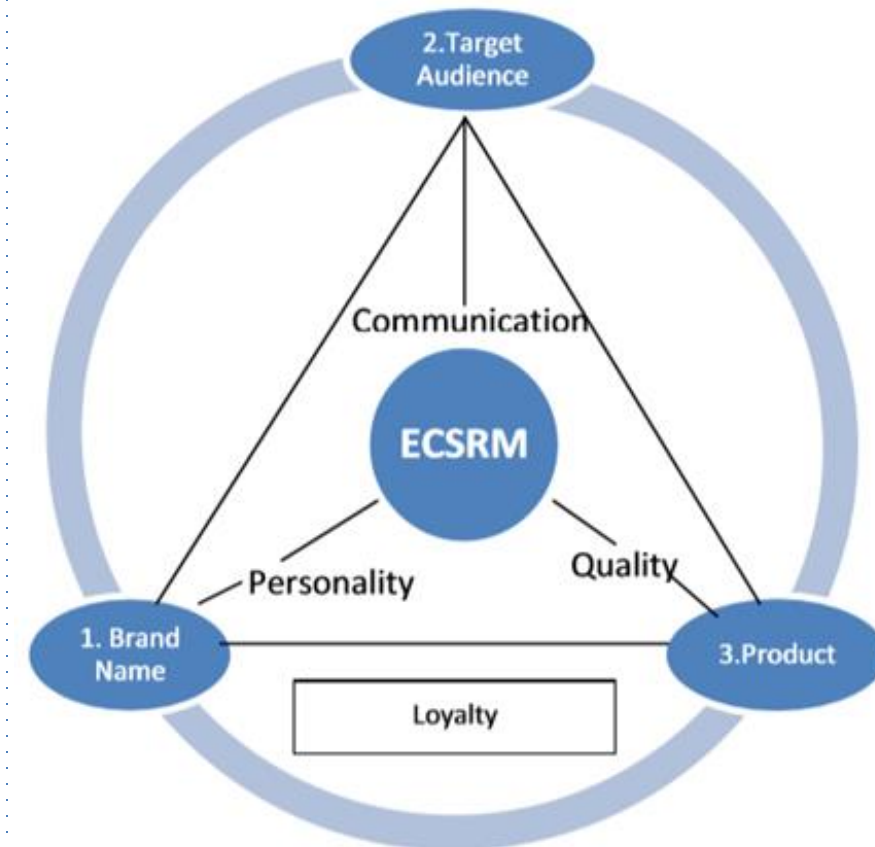
Relationship between Business management in accordance with the concept of sustainable development and competitiveness



# Results

The feasibility and profitability of applying of TBS Standard TZS 1312:2010 to sustainable charcoal produced in the project area - III

Relationship among Brand Name, Target Audience and Product



# Results

The feasibility and profitability of applying of TBS Standard TZS 1312:2010 to sustainable charcoal produced in the project area - III

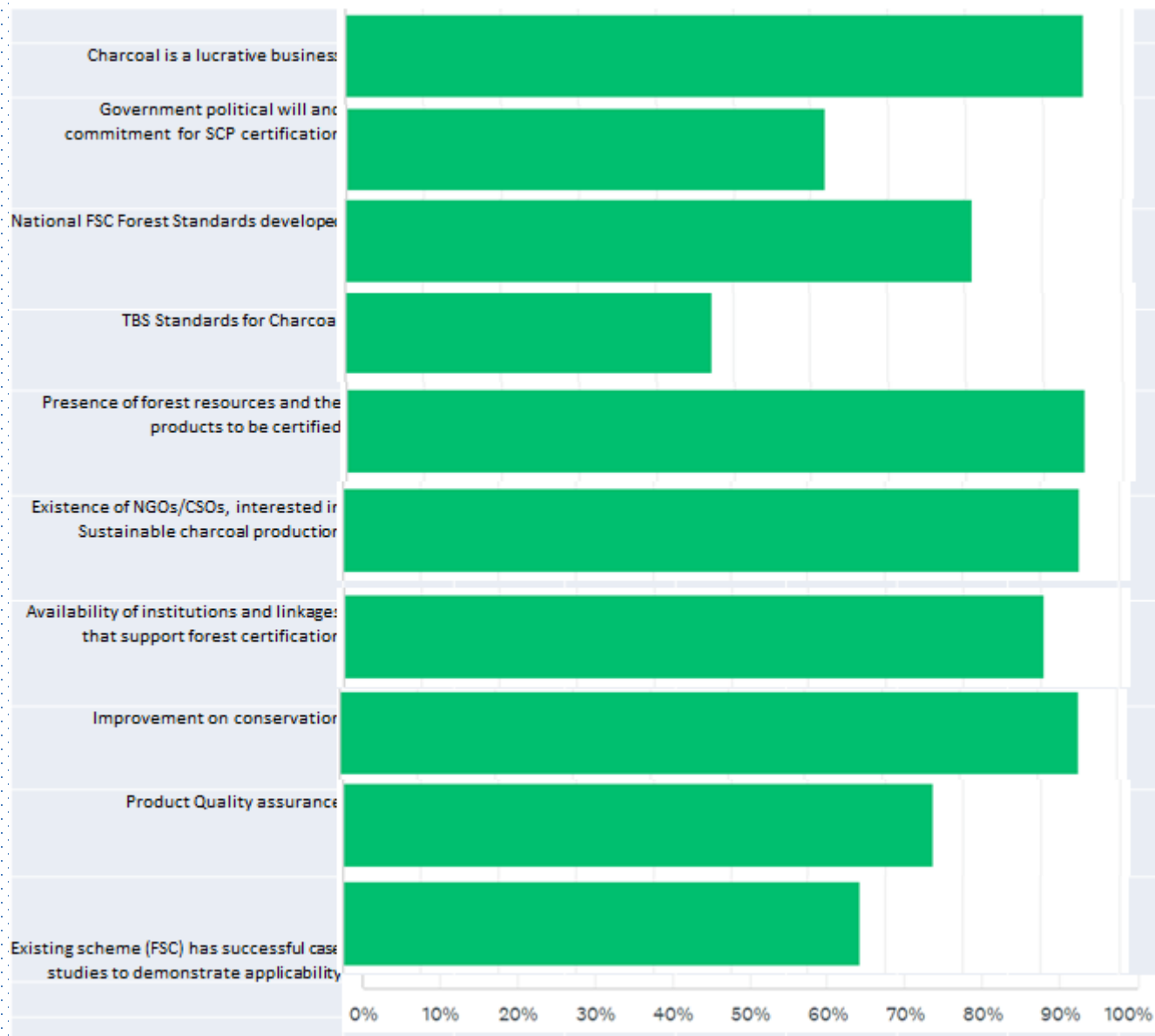
## TBS TZS1312:2010 - Quality Test results

	ON AIR DRIED BASIS (AD)				
DESCRIPTION	PROXIMATE ANALYSIS (%)				Gross Calorific Value (Kcal/Kg)
Parameters	Ash	Moisture Content	Volatile Matter	Fixed Carbon	
Standards specifications	< 5	< 10	< 20	> 75	
Sample results	5.52	2.69	63.9	28.19	6346



# Results

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

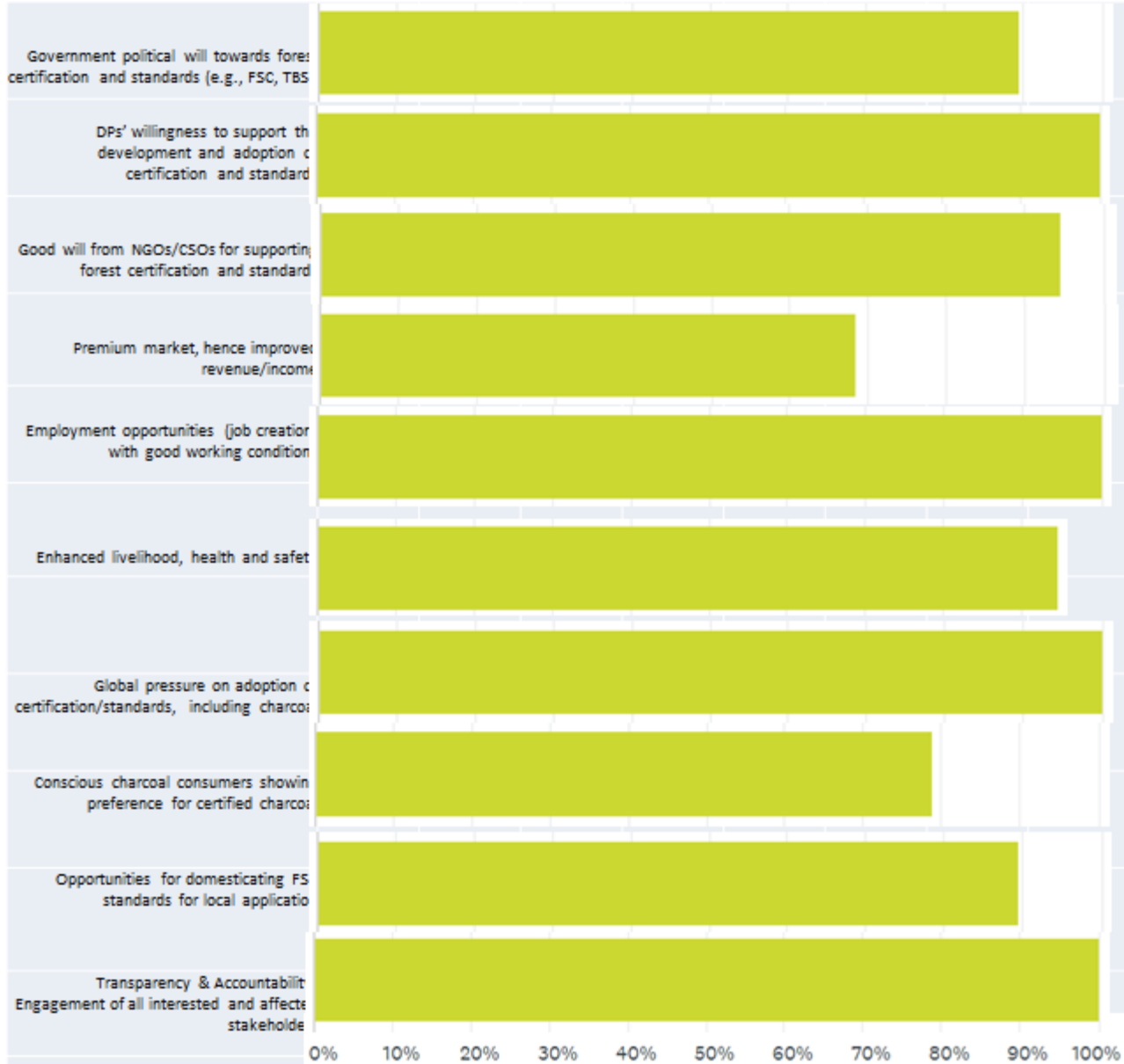


Implementation of Charcoal Certification in Tanzania:  
Strengths

# Results

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

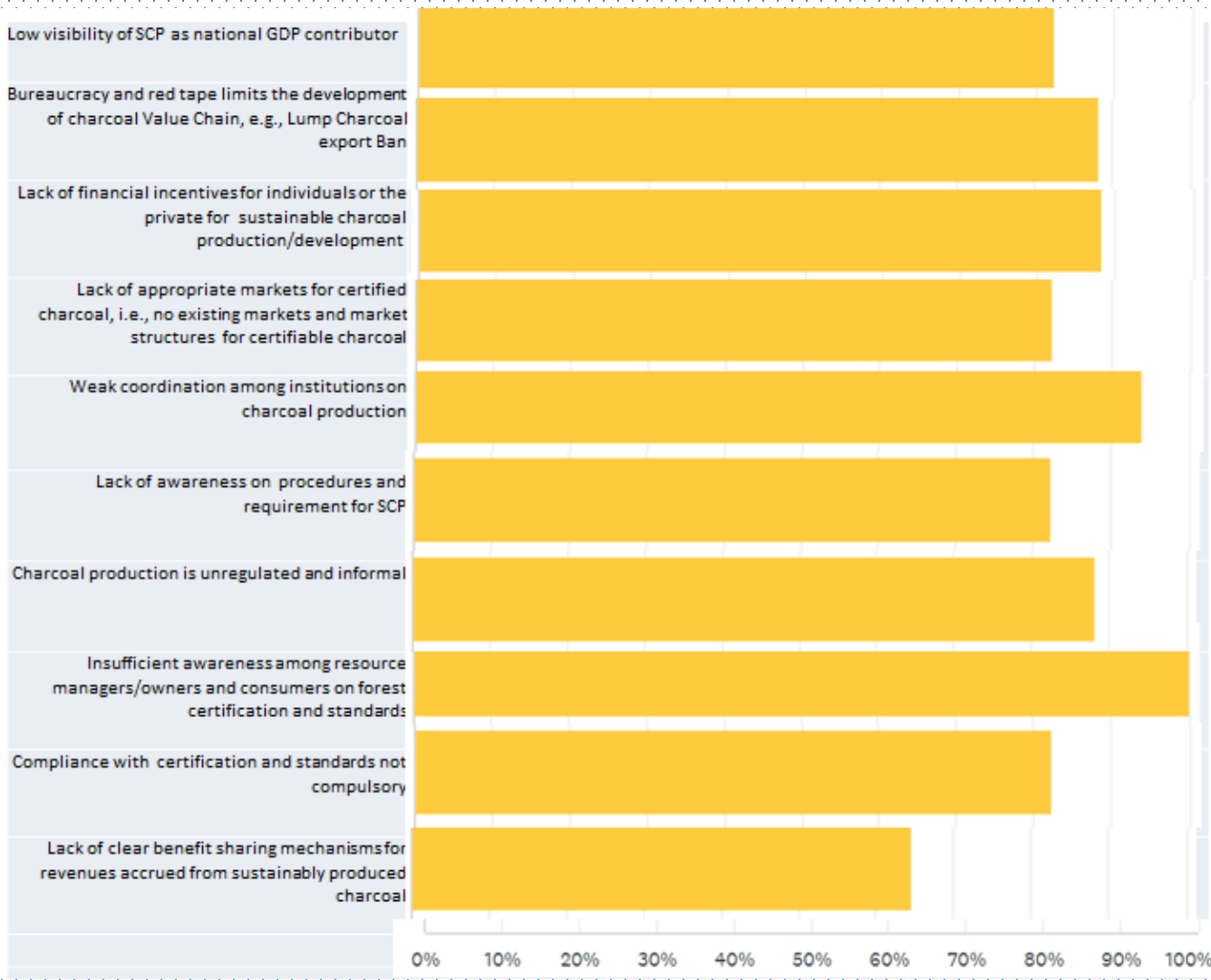
Implementation of Charcoal Certification in Tanzania:  
Opportunities



# Results

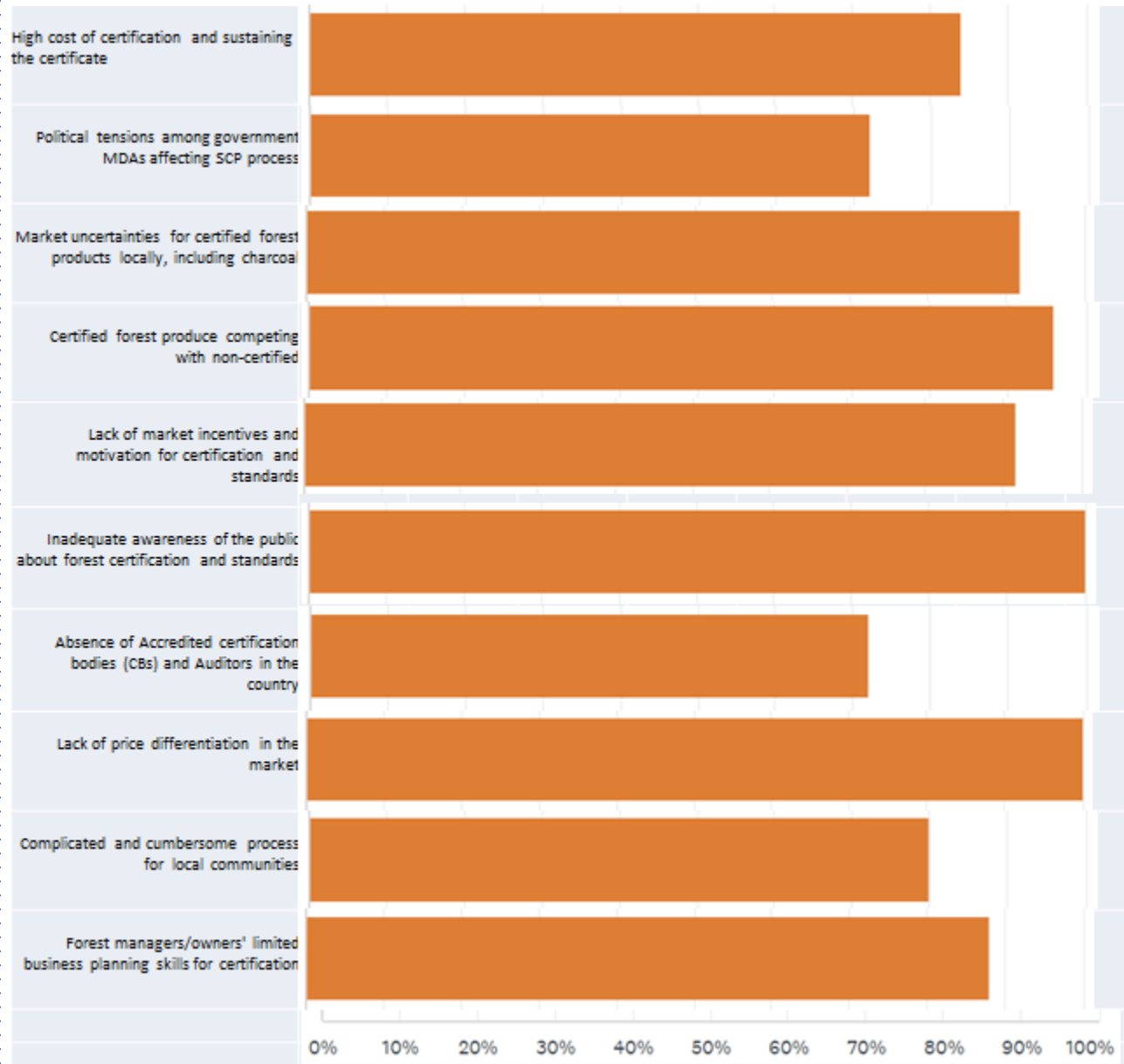
Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

Implementation of Charcoal Certification in Tanzania:  
Weaknesses



# Results

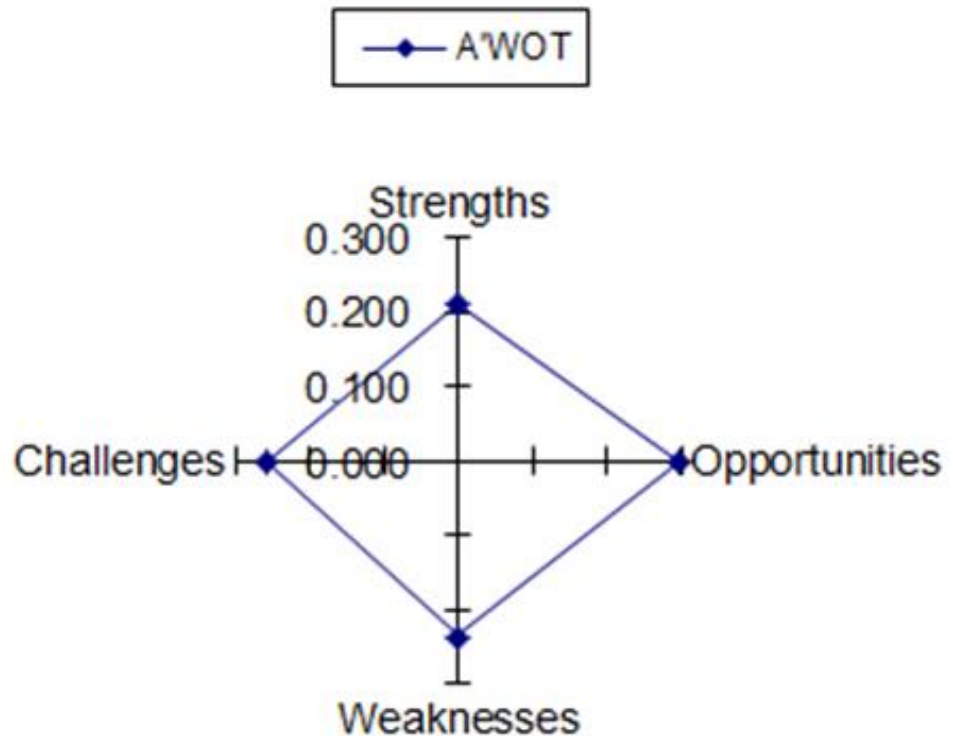
Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV



Implementation of Charcoal Certification in Tanzania:  
Challenges

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

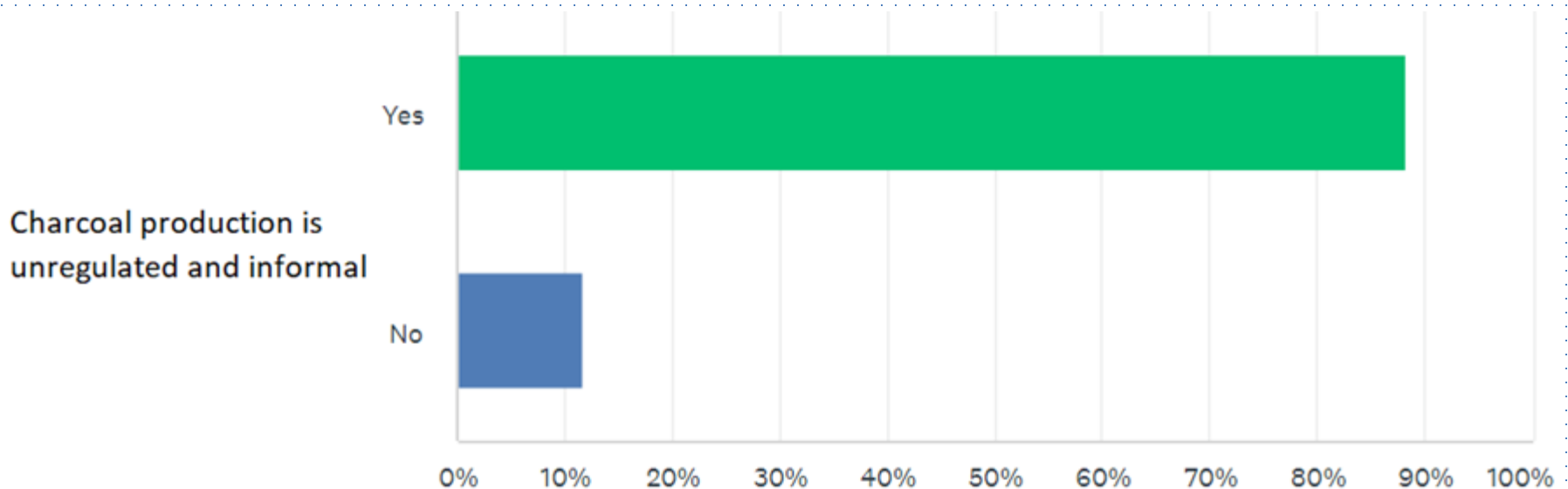
Relative importance of SWOC groups in an A'WOT application to SWOC analyses of implementation of charcoal certification in Tanzania



Strengths	Opportunities	Weaknesses	Challenges
0.209	0.298	0.236	0.257

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

## The informal charcoal sub-sector in Tanzania



Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

Community forestry legal building blocks for certification implementation - How these thematic areas interact and inform each other

Faure, etal, 2019. Communities at the heart of forest management: How can the law make a difference?

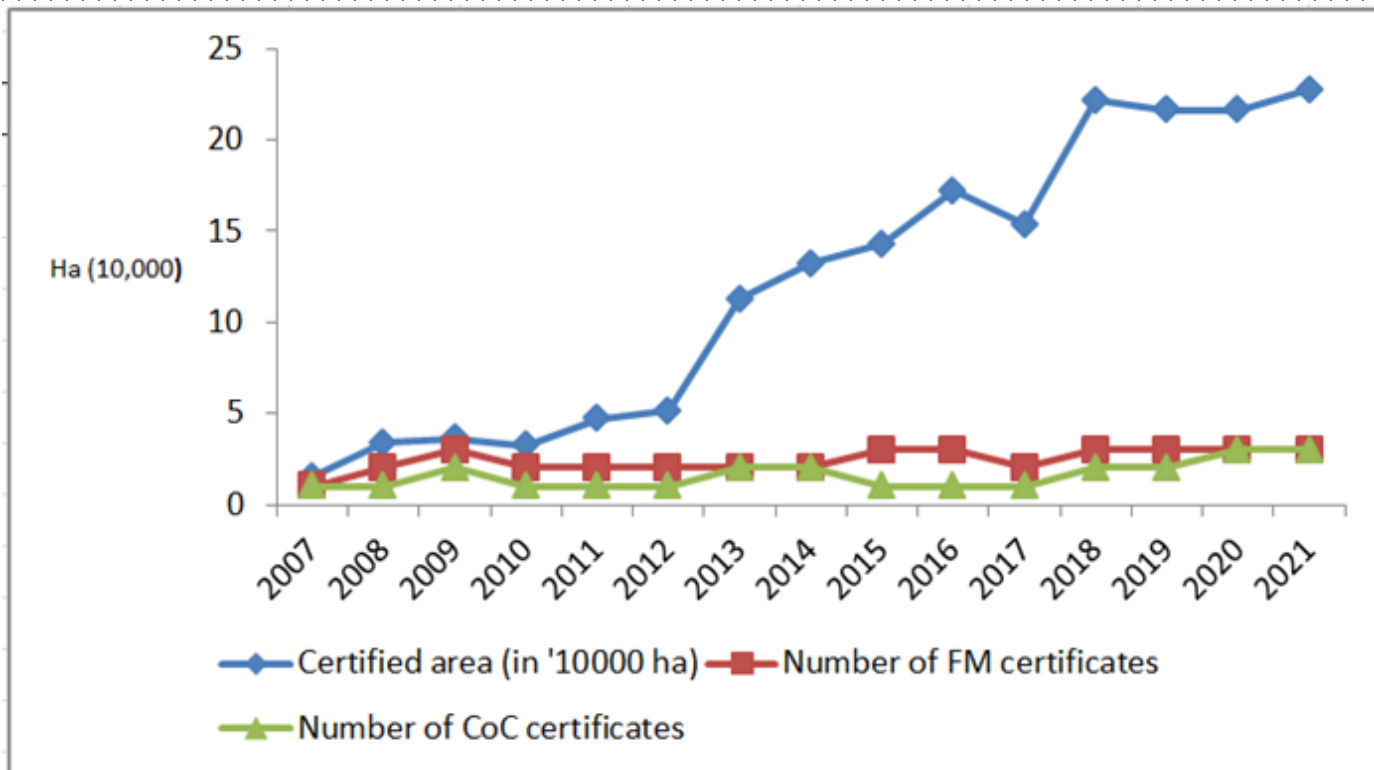
1. Land and forest tenure
2. Community forests allocation
3. Community internal governance
4. Community participation and representation of vulnerable groups
5. Community forestry management
6. Access to markets
7. Benefit sharing
8. Conflict resolution
9. Enforcement
10. External support



# Results

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

FSC Certification Status in Tanzania (2007-2021)

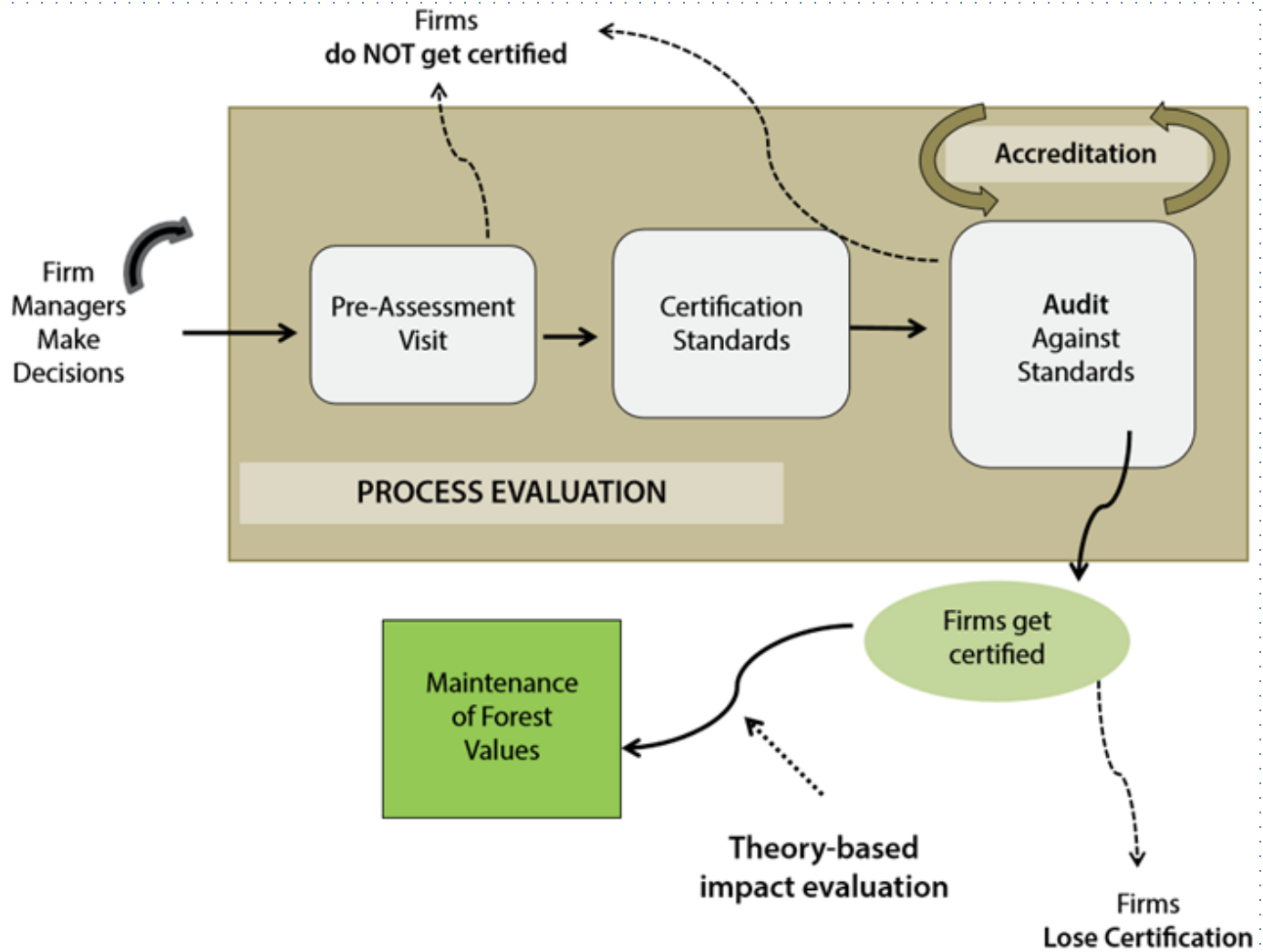




# Results

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

Key steps and decisions related with FSC certification process

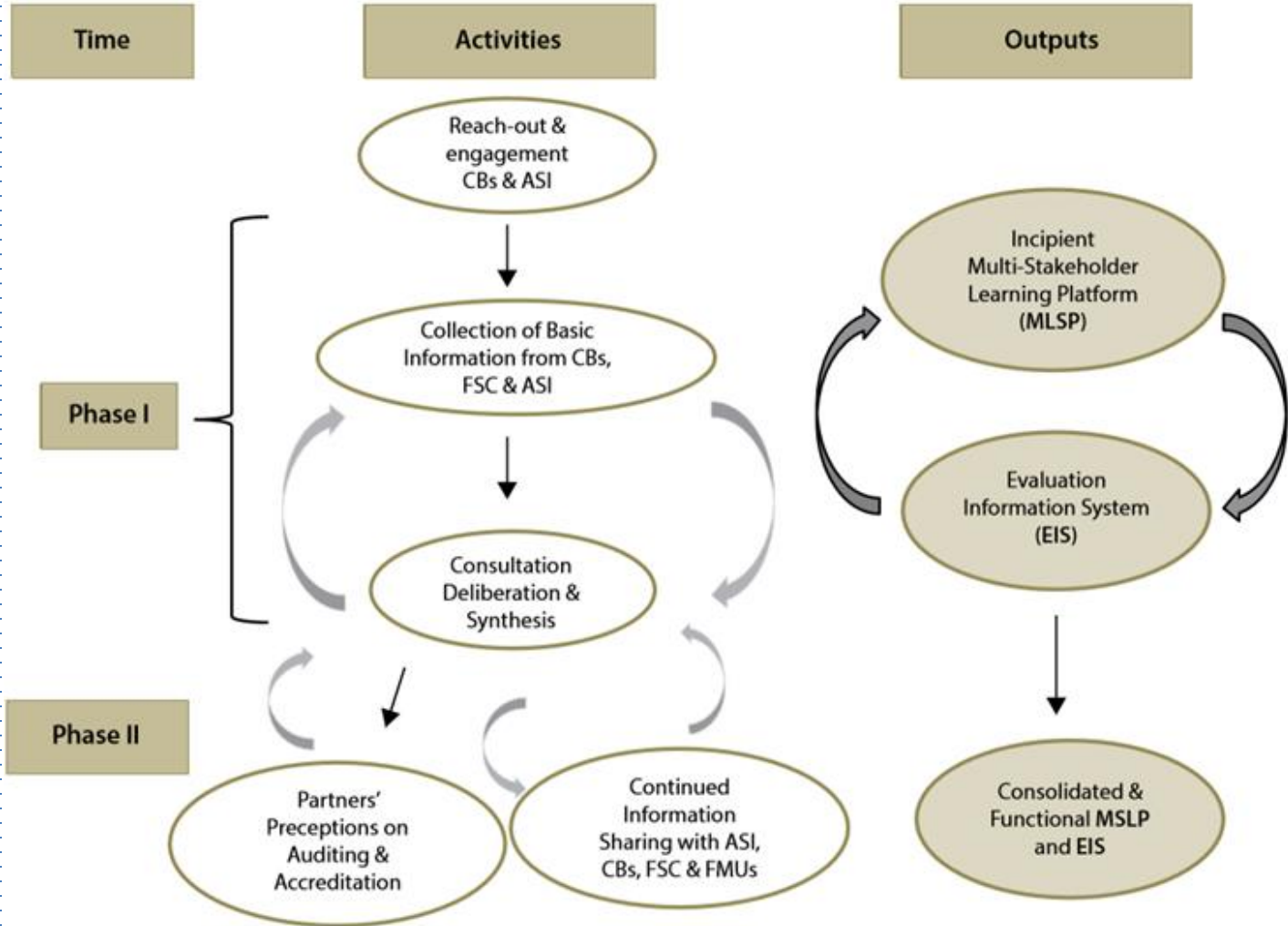


Romero et al, 2015. The context of natural forest management and FSC certification

# Results

Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

Operational process throughout the different stages of FSC standards evaluation

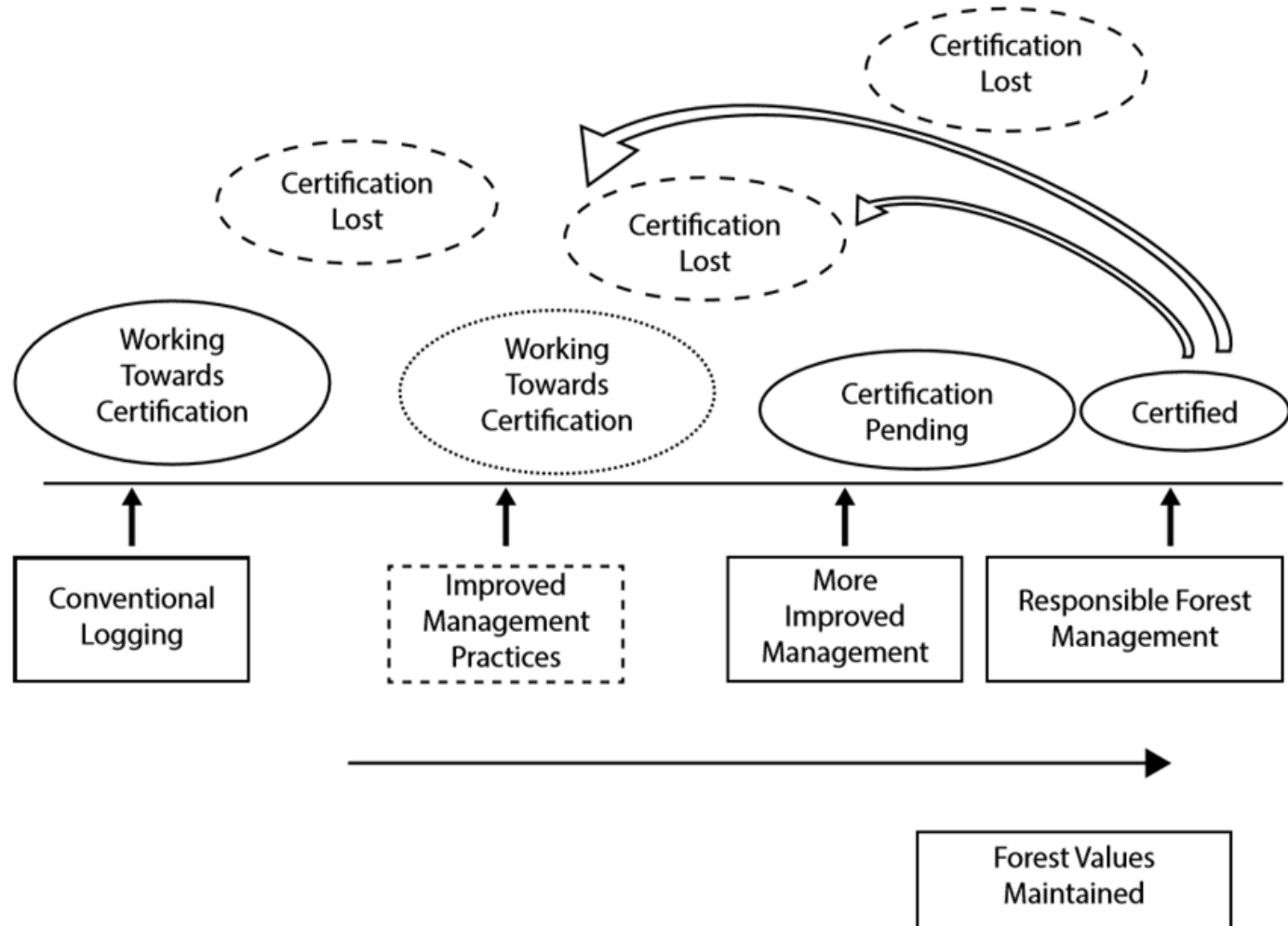


Romero et al, 2015. The context of natural forest management and FSC certification

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Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

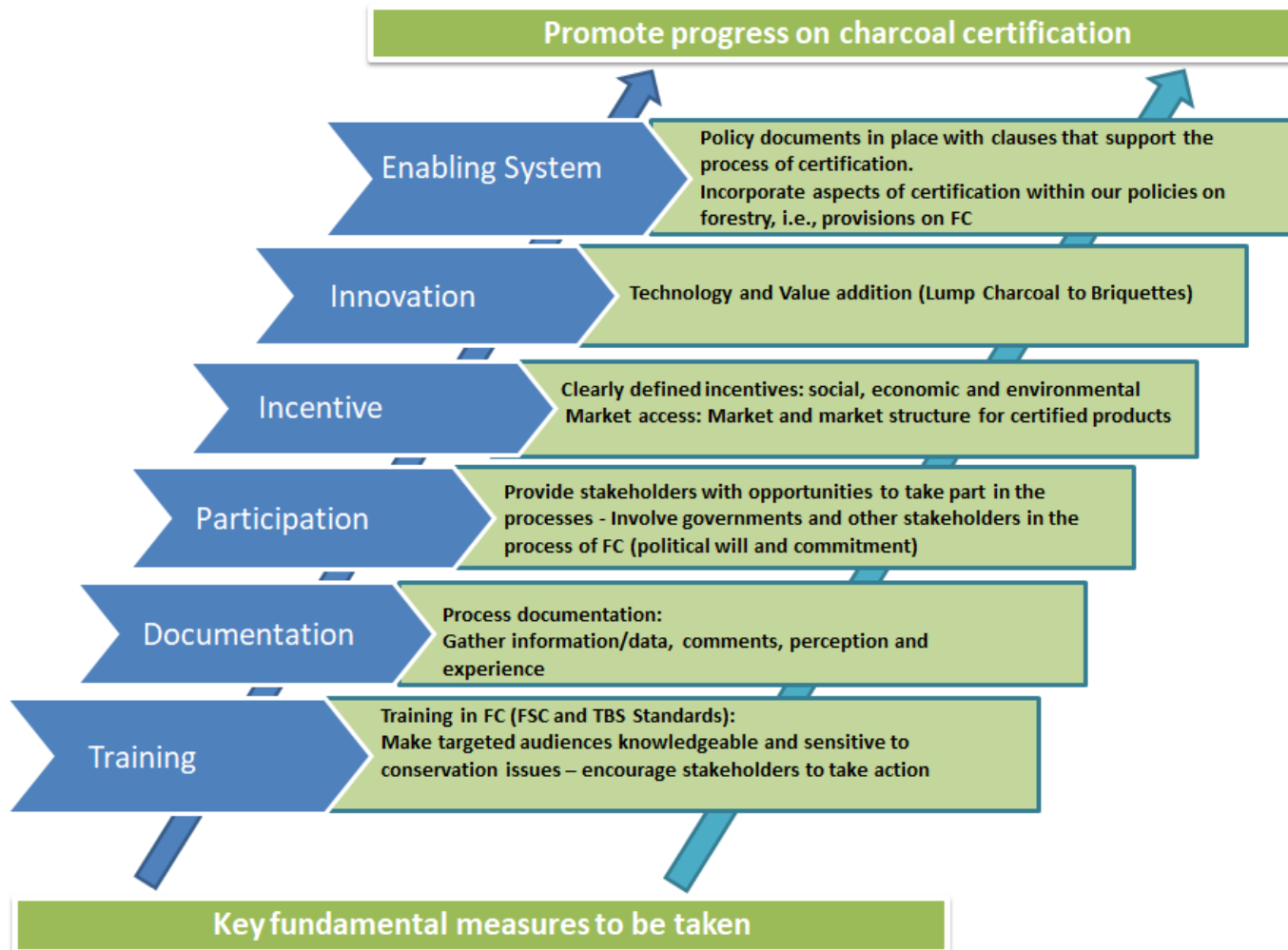
Certification continuum, and progression towards certification (oval)



Romero et al, 2015. The context of natural forest management and FSC certification

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Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV



Measures to be taken by the project partners and other stakeholders to promote progress on charcoal certification to support socially inclusive and ecologically sustainable charcoal value chains - IV

Certification process for CBFM: Modular Approach for Group Scheme

Learning from others...

## Audit Process and Continuous Improvement



# Conclusion

Implementation of charcoal certification in CBFM areas in Tanzania:

- ✓ FSC NFSS are voluntary in nature, to ensure effective implementation of charcoal certification in CBFM areas in Tanzania, they should be made compulsory.
- ✓ The TBS standard on charcoal kilns, production, quality and species aims at improving production efficiency (e.g., carbonization) and quality of charcoal.
- ✓ The lump charcoal tested revealed it did not have the required qualities as per TBS Standard (TZS 1312:2010), and hence unsuitable for household use.
- ✓ Despite the interests of stakeholders in certification, there is limited awareness and capacity for implementation of charcoal certification in Tanzania.



# Recommendations

Implementation of charcoal certification in CBFM areas in Tanzania:

- Development of training programs for sensitization and capacity building
- One of the challenges was inadequate awareness and limited market. To ensure that certified charcoal is profitable, a strategy to reshape the market and consumer behaviour is inevitable.
- The FSC - NFSS should be linked to TBS standards to give it legal force during its implementation on the ground
- Three charcoal producer groups VLFRs in Kilosa district could be considered for certification as a pilot project for capacity building.
- [Action plan](#)



# Thank you



**About Environment and Forest Certification (EFC) Limited is a consulting company in forestry, agriculture, wildlife, mining, tourism, manufacturing/processing and certifications and construction operations. The company was established in 2010.**

<https://www.efcl.co.tz>