



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

CLIMATE CHANGE VULNERABILITY AND VALUE CHAIN ASSESSMENT IN EGYPT AND KENYA

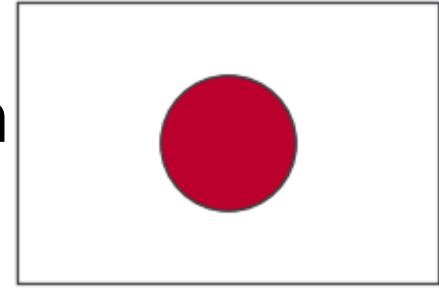
MIDRAND, 13-14 JUNE 2017

Authors:

Takeshi Takama, Ibnu Budiman, Novelita Wahyu Mondamina, Yudiandra Yuwono, Cynthia J Ismail
Sustainability & Resilience (su-re.co)

Acknowledgement

Government of Japan



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



NCPC National Cleaner Production Centre
– South Africa
NATIONAL CLEANER PRODUCTION CENTRE
— SOUTH AFRICA —



Outline



01
Background

02
Project
components

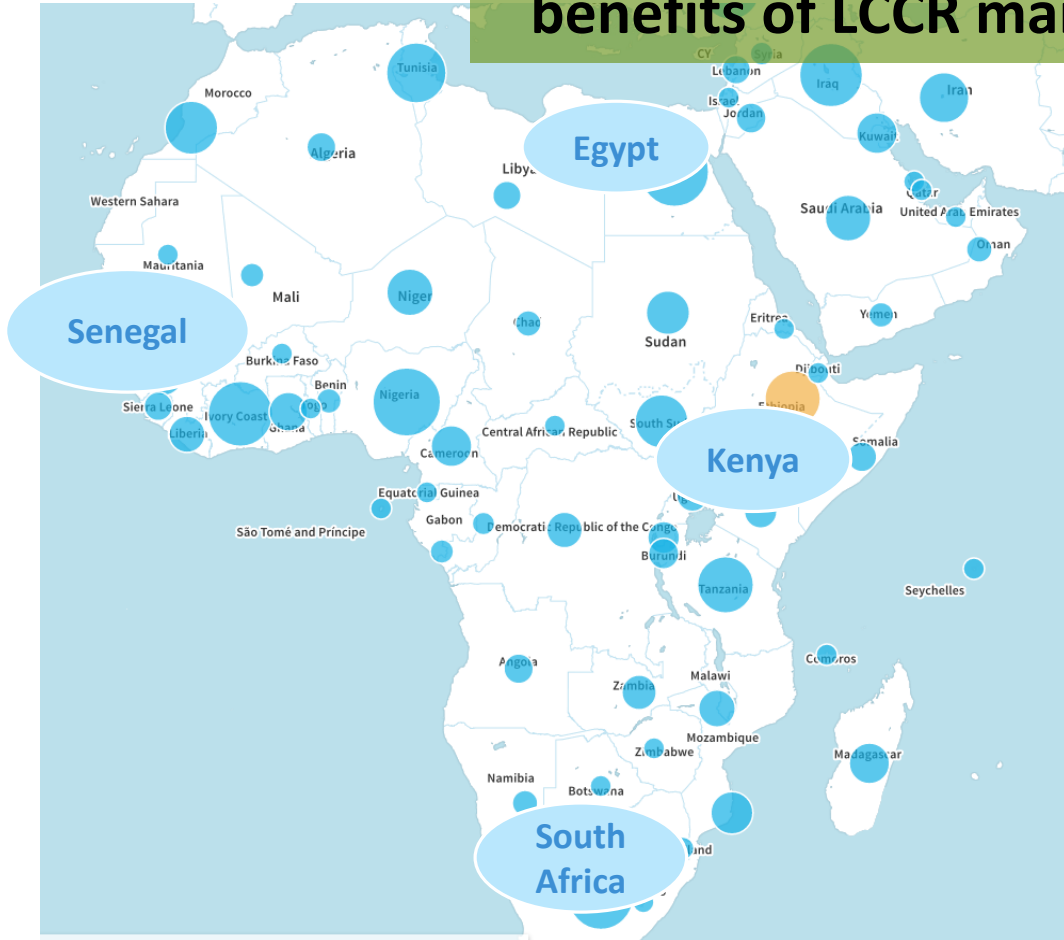
03
Case Study:
Kenya

04
Opportunities

05
Next Steps

Objective and Project Locations

To create awareness and demonstrate the opportunities and benefits of LCCR manufacturing & related productive sectors



Kenya



Egypt



Senegal



South Africa

Project Components

Government Actions

- Vulnerability Assessment

Policy Pilots

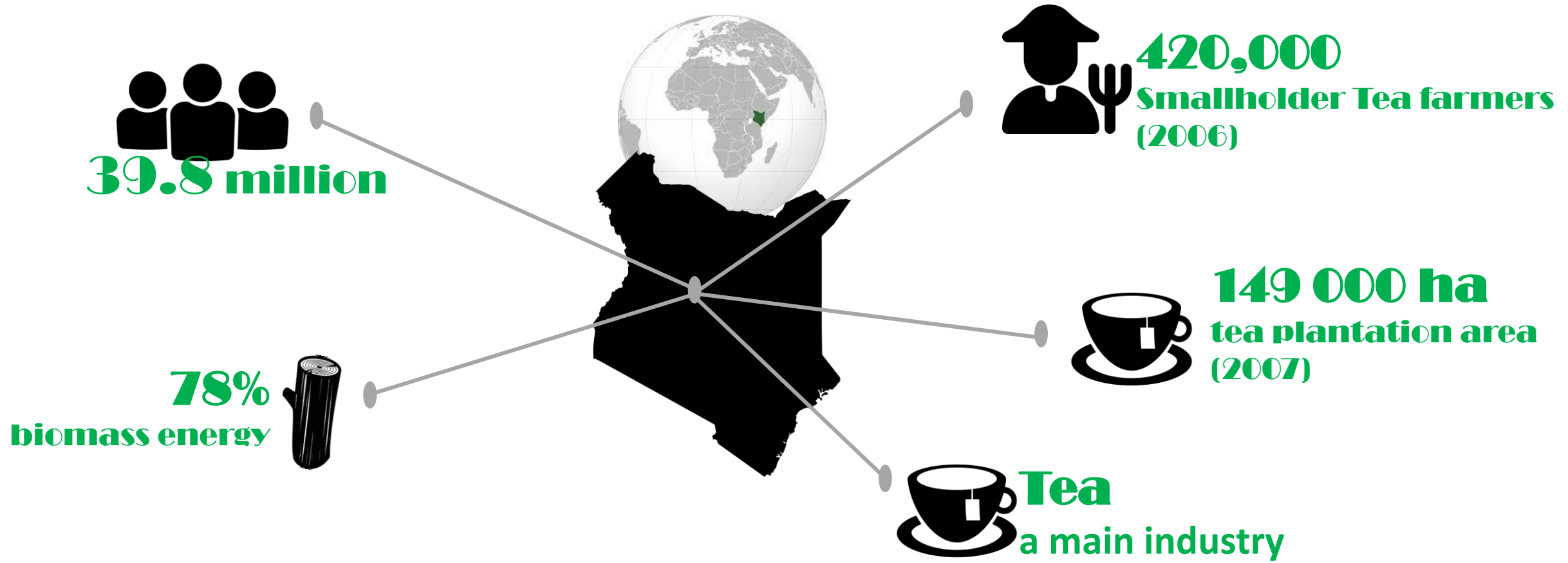
- Value Chain Analysis
- Technical Assessments at production facilities

Partnerships

- Technology Demonstrations
- Disseminations

GI Action Agenda for Low Carbon and Climate Resilient Industrial Development

Kenya



Source: Amde et al., 2009)

Challenges in Tea Production in Kenya



\$ High
Production cost

LOW
Infrastructure




Inadequate
Research



\$



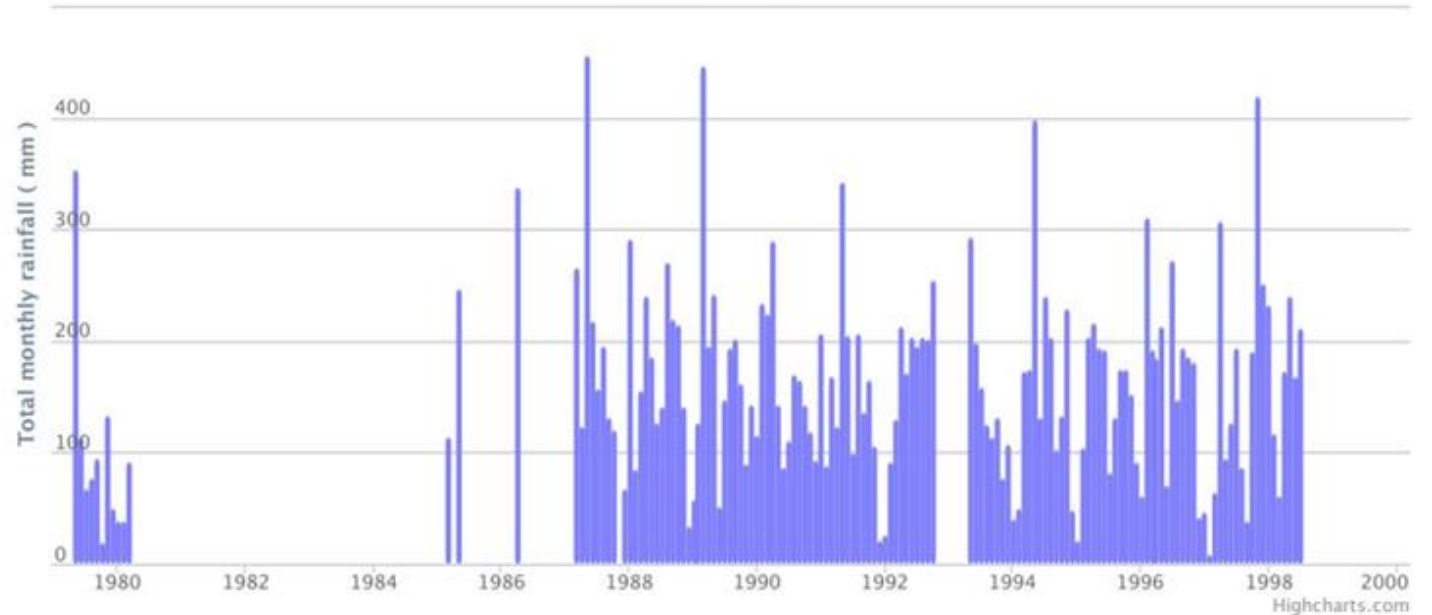
LOW
Value chain



Observed Climate

Less rainfall, warmer temperatures, combined with increased humidity, will potentially proliferate new pests and diseases

KERICHO (altitude 2184m)
Total monthly rainfall



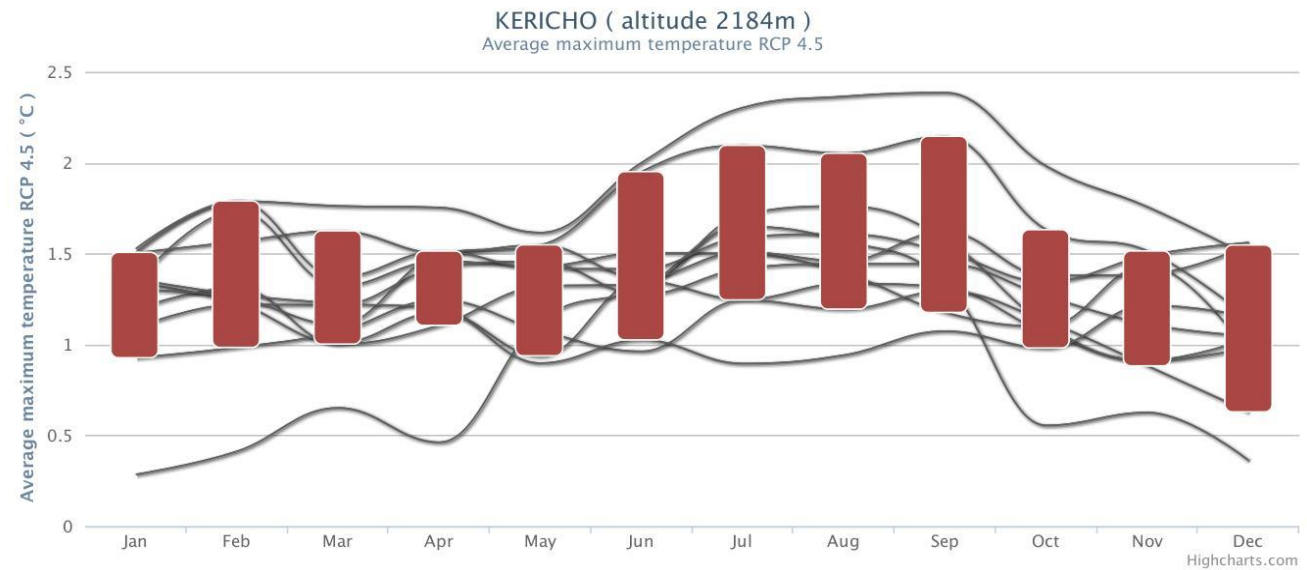
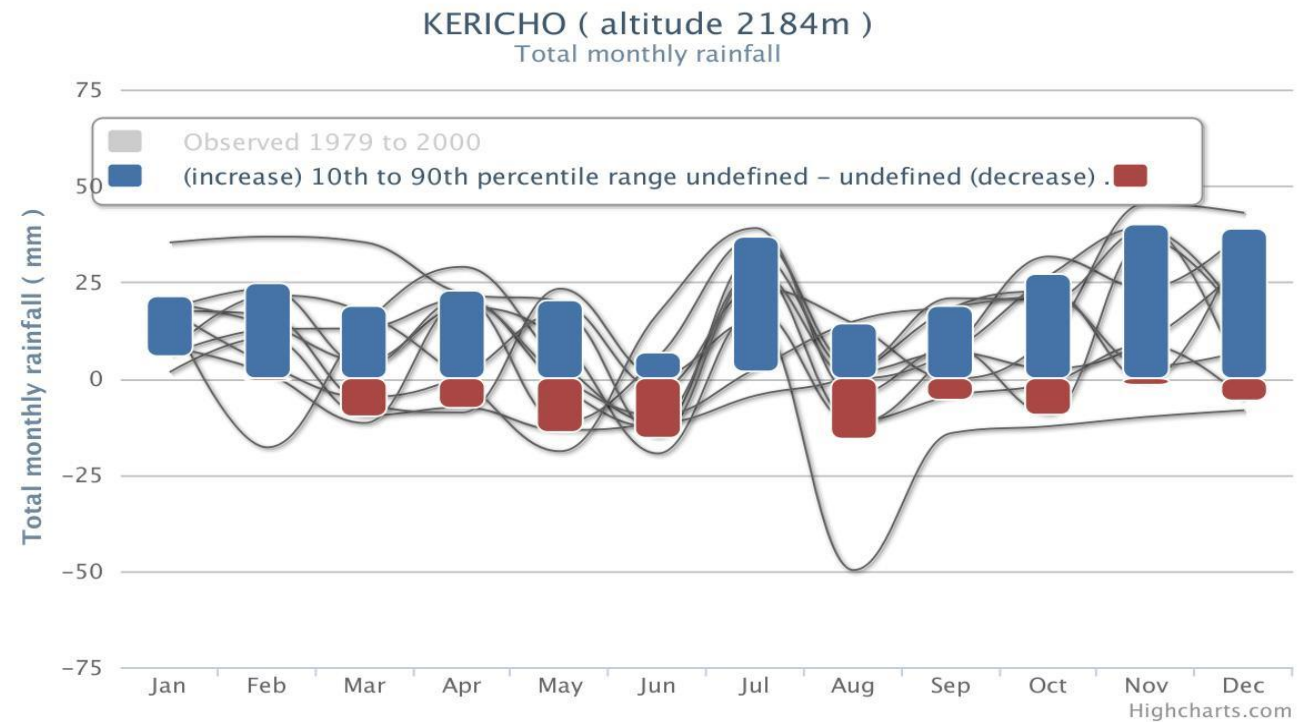
Historical climate monthly averages

KERICHO



Projected Climate

- Decrease in total monthly rainfall is possible and can take place throughout almost whole year
- Increase temperature will reduce suitable area for tea plantation



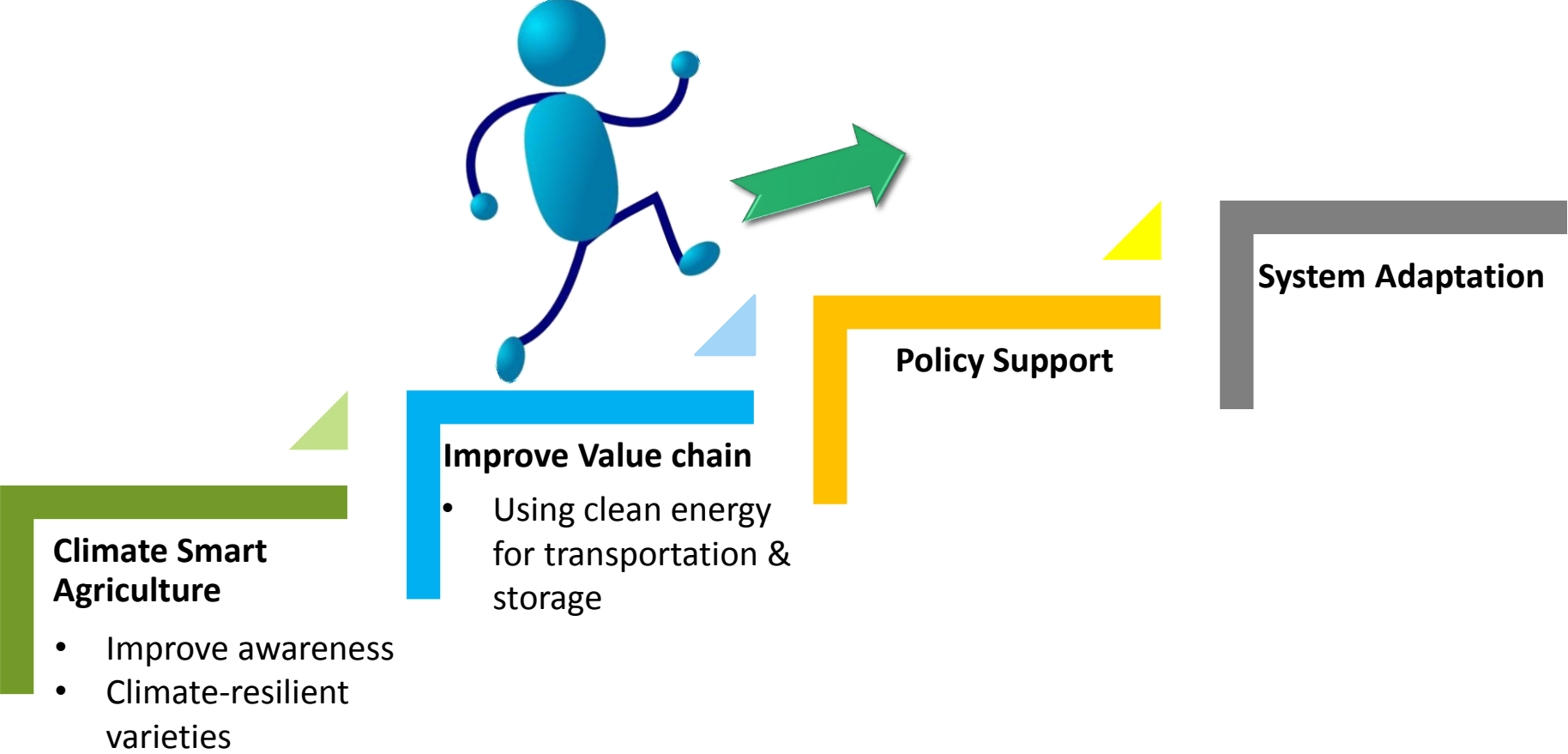
Vulnerability matrix for tea sector in Kenya

| | Hail storm | Frost | Decrease rainfall | Cold condition | No. of 3s |
|-------------------|------------|----------|-------------------|----------------|-----------|
| Frequency | + | - | - | - | |
| Land preparation | 2 | 1 | 3 | 0 | 1 |
| Planting | 2 | 2 | 3 | 1 | 1 |
| Plant husbandry | 3 | 2 | 3 | 3 | 3 |
| Plucking | 3 | 3 | 3 | 3 | 4 |
| Transportation | 1 | 1 | 0 | 1 | 0 |
| Withering | 1 | 2 | 2 | 3 | 1 |
| Cut, Tear, & Curl | 0 | 0 | 1 | 2 | 0 |
| Fermentation | 2 | 2 | 2 | 3 | 1 |
| Drying | 3 | 2 | 0 | 3 | 2 |
| Sorting | 0 | 0 | 0 | 0 | 0 |
| Packaging | 0 | 0 | 0 | 0 | 0 |
| Distribution | 1 | 0 | 0 | 0 | 0 |
| No. of 3s | 3 | 1 | 4 | 5 | |

Existing Policies for Vulnerability of Climate Change in Kenya



Adaptation measures for tea industry in Kenya



Conclusion

- Further industrial development related to processing will require the improvement of post-harvest processing, storage technology, and transportation infrastructure.
- There are many opportunities to support climate resilient industrial development could be built

Next Step

- Technology Demonstrations
- Pilot project
- Disseminations



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



LOW-CARBON and CLIMATE RESILIENT INDUSTRIAL DEVELOPMENT IN AFRICA



SYNTHESIS REPORT

METHODOLOGY

VALUE CHAIN MATRIX

Available Online

<https://www.unido.org/news/press/unido-report-on-bene.html>

THANK YOU

GRACIAS
ARIGATO
SHUKURIA
JUSPAXAR
DANKSCHEEN
TASHAKKUR ATU
SUKSAMA
EKGHMET
SUKSAMA
EKGHMET
GRAZIE
MEHRBANI
PALDIES
BOLZIN
MERCY
BIYAN
SHUKRIA
TINGKI
YAQHANYELAY
TASHAKKUR ATU
SUKSAMA
EKGHMET
GRAZIE
MEHRBANI
PALDIES
BOLZIN
MERCY