Understand, Design, Act: Climate-proof your supply chain

Module 5: How do I know my investment in climate smart agriculture is working?

27. September 2018
Module 5: How do I know my investment in Climate Smart Agriculture is working?

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Program Manager
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Moderators

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Let’s discuss today

- Measuring impact at
  - Farm level
  - Sector level
  - Landscape level
1. Click on “Raise Hand” button
   If you want to **comment** or ask questions

2. Use the Q&A box
   To **place your questions** and get feedback from the panelists

3. Your mic is silenced
   To avoid undesired **background noises**. But you can raise your hand to speak!

4. Remember
   **This session** is being recorded for archive purposes
Path to Collective Action

- Introduction
- Risk Profiles
- Tools
- Scale
- Monitoring
- Business Case
- Collaboration

+ Climate Catalogue as resource

Building Common Ground

- Understand
- Design
- Act

Collective action at origin!

- Honduras
- Uganda
Opportunities in Honduras and Uganda

**Honduras**

- Platform Agenda
- Survey conducted
- Discussion with interested survey stakeholders
- Direct outreach in countries to discuss tangible projects
- Get commitment

**Uganda**

- Climate Change Working Group

Survey conducted
WHERE WE’RE AT

1. Understanding climate change and the coffee sector

2. How is climate change affecting my supply chain?

3. How can I manage the effects climate change is having on my supply chain?

4. How can I scale up CSA?

5. How do I know if my investment in CSA is working?

6. How can I convince my company and others to invest in CSA?


Get to know climate resilience indicators and monitoring & evaluation tools for CSA and understand how they can be used to monitor supply chain risk and resilience building.
Assessing Climate Resilience in Smallholder Supply Chains

To read the full Guide, visit: https://sustainablefoodlab.org/5612-2/
5 Steps to Measuring Smallholder Resilience

**RESILIENCE**

Resilience is not a state of being, but rather a set of capacities that enables a system (such as a farm, farming family, or aggregator) to prevent or respond to threats to its health and stability (such as climate change).

**GUIDING STEPS**

1. Know your risk
2. Know your farmers
3. Know your resilience
4. Know how to build resilience
5. Know your progress
## Steps 1-2: Know your risk and know your farmers

<table>
<thead>
<tr>
<th>Farm Level</th>
<th>Financial Capital</th>
<th>Human Capital</th>
<th>Natural Capital</th>
<th>Physical Capital</th>
<th>Social Capital</th>
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</thead>
<tbody>
<tr>
<td>Absorptive</td>
<td>Net income/poverty level</td>
<td>Food security and nutrition</td>
<td>On-farm soil health</td>
<td>Access to early-warning Systems</td>
<td>Access to informal safety nets</td>
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<tr>
<td>Capacity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Adaptive</td>
<td>Use of credit</td>
<td>Use of relevant climate smart agricultural</td>
<td>Access to climate ready</td>
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<td>Capacity</td>
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<td>practices</td>
<td>varieties of focus crop</td>
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<td>Transformative</td>
<td>Saving sufficient for on-farm investment</td>
<td>Innovation potential</td>
<td>Access to climate change</td>
<td>Access to knowledge-sharing groups re: climate change</td>
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<tr>
<td>Capacity</td>
<td></td>
<td></td>
<td>projections</td>
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**Diagram:**
- Human Capital
- Social Capital
- Financial Capital
- Natural Capital
- Physical Capital

**Map:**
- Know your risk
- Know your farmers
Step 3: Know your resilience in the face of climate risk

<table>
<thead>
<tr>
<th>Backslide</th>
<th>Bounce Back</th>
<th>Bounce Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock exposure outweighs capacity to respond</td>
<td>Capacity to respond equals shock exposure</td>
<td>Capacity to respond outweighs shock exposure</td>
</tr>
</tbody>
</table>

- Absorb
- Adapt
- Transform

Severity of threat of shock
Resilience capacity
Step 4-5: Know how to build resilience and know your progress

Designing interventions with monitoring in mind makes for more effective monitoring and more successful interventions.
Climate Smart Agriculture:
Ensuring useful outcomes

GCP Webinar - 2018
Giovannucci & Serfilippi
Resilience Tools
<table>
<thead>
<tr>
<th>Capacity</th>
<th>Core Element</th>
<th>Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>Social</td>
<td>Physical</td>
<td>Basic Services</td>
<td>Access to ICT</td>
</tr>
<tr>
<td></td>
<td>Socio Political</td>
<td>Safety nets</td>
<td>Access to Informal Safety Nets</td>
</tr>
<tr>
<td>Economic</td>
<td>Financial</td>
<td>Diversification</td>
<td>Diversified Crops &amp; Livelihood</td>
</tr>
<tr>
<td></td>
<td>Financial</td>
<td>Savings</td>
<td>Savings tools</td>
</tr>
<tr>
<td>Environmental</td>
<td>Natural</td>
<td>Conservation</td>
<td>Erosion</td>
</tr>
<tr>
<td></td>
<td>Natural</td>
<td>Tree Density</td>
<td>Forestation</td>
</tr>
</tbody>
</table>

- **Access to ICT**: Availability of phone, TV/radio, internet.
- **Access to Informal Safety Nets**: Availability of support in case of necessity (food, work, cash).
- **Diversified Crops & Livelihood**: Number of other crops or animal products produced for sale or consumption.
- **Savings tools**: Types of household savings tools (cash, group, bank).
- **Erosion**: Severity and prevalence of observed erosion on farm (in relation to slope).
- **Forestation**: Number and types of trees planted or removed and amount of land area altered.
Dynamic Sustainability Indices make it easier

Absorptive Index

- # Soil and water conservation practices
- # Critical Info
- Fertilizers (Soles)
- Pesticide (Soles)
- # IPM
- # GAP
- # Coping strategy
- # Safety nets
- Age trees
- % HH with new coffee varieties
- % HH with credit
- Diversification Index
- TLU
- # Soil fertility management practices
- % HH with credit
- Farm area
- Diversification Index
Resilience Toolkits

- Resilience Basic Set
  - Key shocks & coping

- Resilience Core Set
  - Hot Spots

- Resilience Full Set
  - Changes in resilience over time
  - Attribution of changes
Resilience Tools for Landscapes

Conservation International
CIAT
Lutheran World Relief
CRS
United States Department of Agriculture
Sustainable Food Lab
Root Capital
RMEL|CoP
Dynamic Sustainability

- Climate Risk
- Traders & Processors
- Government Policy
- Co-op
- Household & Community
- Deforestation
- Census Demographics
- Ecosystem
- Local Data
- Big Data
- Improved Outcomes

COSA
Functional data

Mexico sample
Dynamic Sustainability

Engaging Stakeholders in the Data
Objective: Practical tools for managing resilience

Pragmatic
Key insights on critical points

Low cost
No barriers to use

Simple
Easier shared learning to be scaleable

Let’s collaborate! the COSA team
ON-FARM CLIMATE VULNERABILITY TOOL

• Assesses on-farm (agronomic) vulnerability according to:
  Exposure (climate risks)
  Sensitivity (on-farm conditions)
  Adaptive Capacity (agronomic practices and economic characteristics)

• Survey questions are designed specifically to measure relevant conditions for coffee production. Currently, questions are tailored to the Trifinio region of Guatemala and Honduras where the tool has been developed.

• Available in SurveyCTO for data collection with smartphones
SURVEY COMPONENTS

• Farmer characterization
• Farm administration
• Technical assistance and networks
• Climate and extreme events
• Pest & Diseases
• **Soil management**
• Crop management
• Forest & Water

Examples of conditions evaluated in **soil management**:
• Slope
• Erosion
• Planting using contour lines
• Live barriers
• Cover crops
RESULTS

• Determine the climate events that farmers perceive are affecting them most

• Understand the climate impacts generated by the climate events

• Identify practices that farmers are adopting (or not)

• Evaluate results at farm, farmer organization, altitude, community or municipality

• Private sector is able to understand climate risks in their sourcing regions
RESULTS

c&c piloting in two coops of Honduras
OPPORTUNITIES

• Pilot the tool in your location in partnership with the ARC project

• Understand climate vulnerability in coffee production better

• Aggregate data to better understand how farmers are being affected by climate and how they are currently responding (and identify gaps)
MEASURING IMPACT
THE 15 COMMON INDICATORS
In 2017, the GCP and Sustainable Coffee Challenge jointly developed with partners and members and launched a Sustainability Progress Framework for the coffee sector. Eight (8) common outcomes have been identified.

These include: income, access, equality, water quality, forests, purchase of sustainable coffee, productivity and quality

A set of common metrics were also proposed, which could facilitate collective progress measurement on key outcomes and reporting.

The GCP further facilitated prioritization of indicators for reporting and settled at 15 aspirational common indicators through voting, SDG rationalization and a Board advisory working group. The success of this reporting on common indicators very much depends on the engagement of a broad base of stakeholders.

Common indicator work is an extension of aligning how we measure the common outcomes in the Sustainability Progress Framework.
## ECONOMIC (prosperity)

### Issue/Core Elements

<table>
<thead>
<tr>
<th>Issue/ Core Elements</th>
<th>SDG</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit</td>
<td>2.3</td>
<td>Net income from coffee</td>
</tr>
<tr>
<td>Yield</td>
<td>2.3</td>
<td>Productivity improvement to optimal target</td>
</tr>
<tr>
<td>Costs</td>
<td>2.4</td>
<td>Optimization of cost per kg to optimal target</td>
</tr>
<tr>
<td>Chain efficiency/ returns distribution</td>
<td>9.3</td>
<td>Share of FOB price to farmer</td>
</tr>
<tr>
<td>Sustainable purchases</td>
<td>12.6</td>
<td>Volume of sustainable purchases by buyer and as a proportion of total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change in amount bought year to year</td>
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</table>
### SOCIAL (improved wellbeing / livelihoods)

<table>
<thead>
<tr>
<th>Issue/Core Elements</th>
<th>SDG</th>
<th>Indicators</th>
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</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>1.2</td>
<td>% of households below national poverty lines</td>
</tr>
<tr>
<td>Wages</td>
<td>8</td>
<td>Proportion of workers earning at least minimum wage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proportion of workers earning living wage where defined</td>
</tr>
<tr>
<td>Child labour</td>
<td>8.7</td>
<td>No. of Child labour monitoring and remediation systems in regions of high risk of Child Labour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. of children identified in unacceptable labor conditions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. of instances of child labor remediated</td>
</tr>
<tr>
<td>Hunger</td>
<td>2</td>
<td>Number of Days Without Food</td>
</tr>
<tr>
<td>Labour practices</td>
<td>8.7</td>
<td>No. and % of farmers trained in Labour Practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. and % of workers trained in Labour Practices</td>
</tr>
<tr>
<td>EN</td>
<td>issue/core elements</td>
<td>SDG</td>
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<tr>
<td>EN1</td>
<td>Forest and ecosystem protection</td>
<td>15.1</td>
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</tr>
<tr>
<td>EN2</td>
<td>Fertilizer use</td>
<td>2.4</td>
</tr>
<tr>
<td>EN3</td>
<td>Water</td>
<td>6.4</td>
</tr>
<tr>
<td>EN4</td>
<td>Pest control / hazards</td>
<td>12.4</td>
</tr>
<tr>
<td>EN5</td>
<td>Soil</td>
<td>2.4</td>
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</tbody>
</table>
Why Common indicators

- Guide on choice of areas to measure
- Help in common message of the change we are making towards sustainability
- Learn from measurement to help on our improvement strategies
STATUS

1. Four indicators are the first **Common Indicators** to pilot:

   (i) Sustainable purchases - EC5,
   (ii) Yield - EC2,
   (iii) Wages - SO2,
   (iv) Water use - EN3.

2. Only **Sustainable purchases** is piloted by all for 2018, the other three are voluntary and will be worked on in innovative ways with interested members, also to test the reporting tool. Deforestation will be innovatively looked at in collaboration with Global Forest Watch.

   Information about all 15 **high-level aspirational** Common Indicators will be shared within membership and sector for orientation and further consultation. The application of the further indicators (beyond the above four) has no fixed time period. Their composition might change as a result from pilot projects.
A NEW WAY OF THINKING

Farm ↔ Landscape

© CONSERVATION INTERNATIONAL/PHOTO BY BAMBI SEMROC
IN A SUSTAINABLE LANDSCAPE

• Natural ecosystems and resources are conserved or restored
• Agricultural systems are economically viable and resilient to climate change
• Rural livelihoods and well-being of all social groups are improved
• Local decision-making processes are inclusive and equitable
FARM PRACTICES

On-farm deforestation

On-farm tree planting / reforestation

Shade + shade management

Erosion control + riparian buffers

LANDSCAPE MANAGEMENT

Forest cover + connectivity

Freshwater quality + flows.
LANDSCAPE ASSESSMENT FRAMEWORK

A tool to evaluate and monitor the status and trends in key indicators that collectively characterize landscape sustainability, and disseminate the results through a series of graphs, charts, statistics, and maps.
- A desk review of existing data
- The creation of an online dashboard to present initial findings
- A field visit to the landscape, which includes interviews with local actors as well as ground truthing of satellite images
- An analysis of the landscape and production presented in a summary card.
OCOTEPEQUE, HONDURAS

• Mountainous region in western Honduras with approximately 150,000 residents.

• Relatively dense forest cover

• Continued deforestation due to agricultural expansion and urbanization.

• Agriculture, esp. coffee, is the primary economic activity.

• Part of the Trifinio Biosphere Reserve, which spans portions of Honduras, Guatemala, and El Salvador.
OCOTEPEQUE RESULTS

LAND USE CHANGE

FOREST COVER + BIODIVERSITY

Land use change in Ocotepeque, Honduras, showing distribution of forested areas and protected areas from 2003 to 2015.

Forest Cover (2015) Based on Forest Conservation Legislation:
- Area 50m along rivers
- Protected areas
- Area above 1,800 m

Percentage of Endemic Species’ Habitats that are Forested:
- Barber’s Sheep Frog
- Holy-nt. Salamander

Percentage of Endemic Species’ Habitats that are Protected

Source: IUCN (2017)

PRODUCTION

Coffee Suitability by Altitude

Coffee Production

Source: INCAP

HUMAN WELL-BEING

Lighting

Water

Cooking Fuel

Source: INEC
FOREST LOSS

In Ocotepeque, 57% of land that was previously deforested now has coffee growing on it.

The post-deforestation data was created by generating 50 random points within the area that had forest loss since 2000. Those random points were visually classified using high-resolution images. Approximately 20% of the points were verified on the ground; the accuracy was 80%.
IDENTIFIED NEEDS

• More efficient cook stove program to reduce dependency on firewood
• Reforestation of areas above 1800masl and within 50 m of rivers to improve compliance with forest policies
• Fire control to avoid forest and coffee losses
• Potential for youth-targeted programs to sustain coffee production
• Promote farm renovation to optimize productivity and reduce climate vulnerability
• Technology to streamline data collection
• Promote crop diversification to reduce vulnerability
Questions & Answers
Climate Risk Analysis
- Country Risk Profiles
- Landscape Assessments
- On-Farm Climate Vulnerability Assessments

CSA Implementation
- coffee&climate Approach
- Stepwise Investment Pathways

Testing & Research
- On-Farm Technology Trials
- Farmer Segmentation Analysis
HOW TO WORK WITH ARC: KNOW WHAT YOU WANT?

• **A la carte**: Apply one or more tools within your supply chain(s).
  — We’ll do the heavy lifting.

• **Combo platter**: Incorporate one or more tools into your own sustainability approach (in one or more locales).
  — We’ll work side by side with you, to make sure our tools fit in seamlessly with your existing work.

• **The whole enchilada**: Develop a full project with us, from start to finish.
HOW TO WORK WITH ARC: NOT SURE WHAT YOU WANT?

- Help us expand our reach within Honduras, Guatemala and Uganda with more farmers and more CSA activities

- Choose your own farmer organization(s) and locations for us to launch CSA activities

GCP and ARC are aligned on this approach
As lead organization of ARC, HRNS will coordinate on behalf of the consortium.

Contact Kate Selengia (katherine.Selengia@hrnstiftung.org) to get the conversation started.
### Next Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Date</th>
<th>Topic</th>
<th>Resource</th>
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<tbody>
<tr>
<td>1</td>
<td>June 7th</td>
<td>Understanding climate change</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>June 12th</td>
<td>How is climate change affecting my supply chain?</td>
<td>Risk Profiles</td>
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<tr>
<td>3</td>
<td>June 28th</td>
<td>How can I manage the effects climate change is having on my supply chain?</td>
<td>Tools</td>
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<td>4</td>
<td>July 19th</td>
<td>How can I scale up CSA?</td>
<td>Scale</td>
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<td>5</td>
<td>September 27th</td>
<td>How do I know my investment in CSA is working?</td>
<td>Monitoring</td>
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<td>6</td>
<td>October 25th</td>
<td>How can I convince my company and others to invest in CSA?</td>
<td>Business Case</td>
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<tr>
<td>7</td>
<td>November 8th, December 6th</td>
<td>How can collaboration work? Bringing action to origin!</td>
<td>Collaboration</td>
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**Duration:** 75 minutes per module  
**Time:** 3pm CEST | 9am EDT | 6am PDT
## Participants in Module 5

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Susan Mcdonald</td>
<td>Global Bright Future</td>
</tr>
<tr>
<td>Pedro F. Gonzalez</td>
<td>Café de Colombia</td>
</tr>
<tr>
<td>Marcus Laws</td>
<td>NCBA</td>
</tr>
<tr>
<td>Hubert</td>
<td>COSA</td>
</tr>
<tr>
<td>Fredeline Joseph</td>
<td>Conservation International</td>
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<tr>
<td>Raina Lang</td>
<td>COSA</td>
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<tr>
<td>Sylvia Calfat</td>
<td>COSA</td>
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<tr>
<td>Louise Salinas</td>
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<tr>
<td>Fernando Rodriguez</td>
<td>CGIAR</td>
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<td>Patrick Kerr</td>
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<tr>
<td>Pablo Fernandez Kolb</td>
<td>CIAT</td>
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<tr>
<td>Elena Serfilippi (COSA)</td>
<td>COSA</td>
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<tr>
<td>Elizabeth Teague</td>
<td>Root Capital</td>
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<tr>
<td>Tessa Meulensteen</td>
<td>IDH</td>
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<td>Martin Kangi</td>
<td>Ecom Trading</td>
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<td>Lydia Namutebi</td>
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<tr>
<td>Kim Elena Ionescu</td>
<td>SCA</td>
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<tr>
<td>Jerónimo Bollen</td>
<td>Sustainable Harvest</td>
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<tr>
<td>Pavel Muñoz</td>
<td>COSA</td>
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<tr>
<td>Jan von Enden</td>
<td>Hanns R. Neumann Stiftung</td>
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<tr>
<td>Napoleón Molina</td>
<td>Rikolto</td>
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<tr>
<td>Paloma Silva</td>
<td>Louis Dreyfus</td>
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<tr>
<td>Graham</td>
<td>Sustainable Innovations</td>
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<tr>
<td>Lars Wehmeier</td>
<td>Niehoff Kaffee</td>
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