Living income webinar series

Manuel Kiewisch
(World Cocoa Foundation)
Will Saab
(New Foresight)

With introduction from:
Stephanie Daniels and Don Seville
(Sustainable Food Lab)

CocoaAction's

Cocoa Farmer Economic Model

10/01/2017

Coffee farms in Uganda © Marta Maireles for ISEAL Alliance

Living income community of practice: Update

Anker living wage methodology to be published in January (Edward Elgar)

New Global Living Wage Coalition living wage benchmark reports – India, Bangladesh, Ethiopia (www.globallivingwage.org)

Platform for posting your living income reports (Sustainability Impacts Learning Platform)

Webinars and events

iseal alliance

Sustainable Food Lab

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH


Photo: Tea Kenya © UTZ CERTIFIED

Next Living Income Webinar

Fair Price Methodology
Ruud Bronkhorst
Thursday 23rd February
3.30pm – 5pm Central European Time
Details and register at:
isealalliance.org/LivingIncome

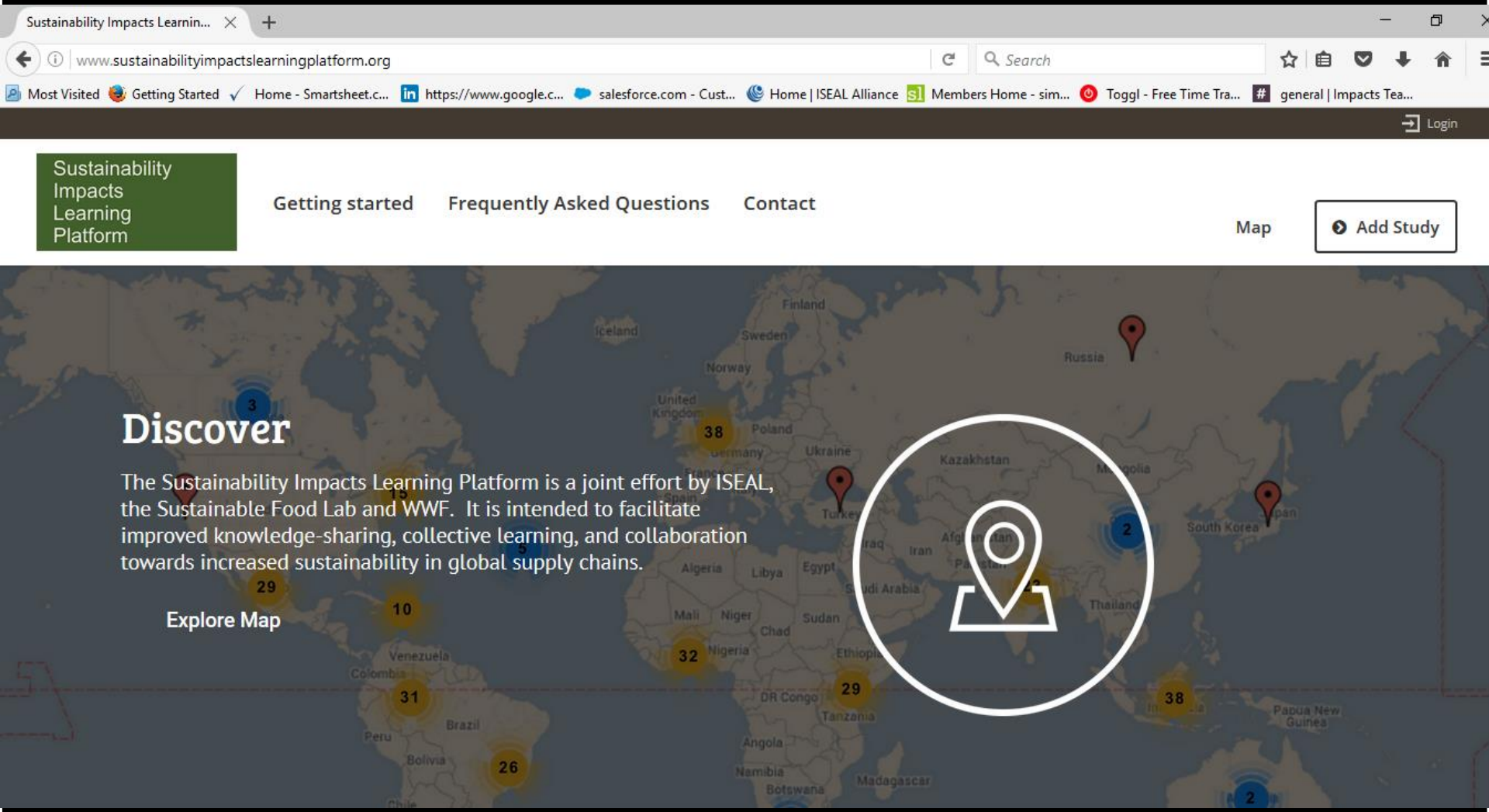
iseal alliance
SUSTAINABLE FOOD LAB
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

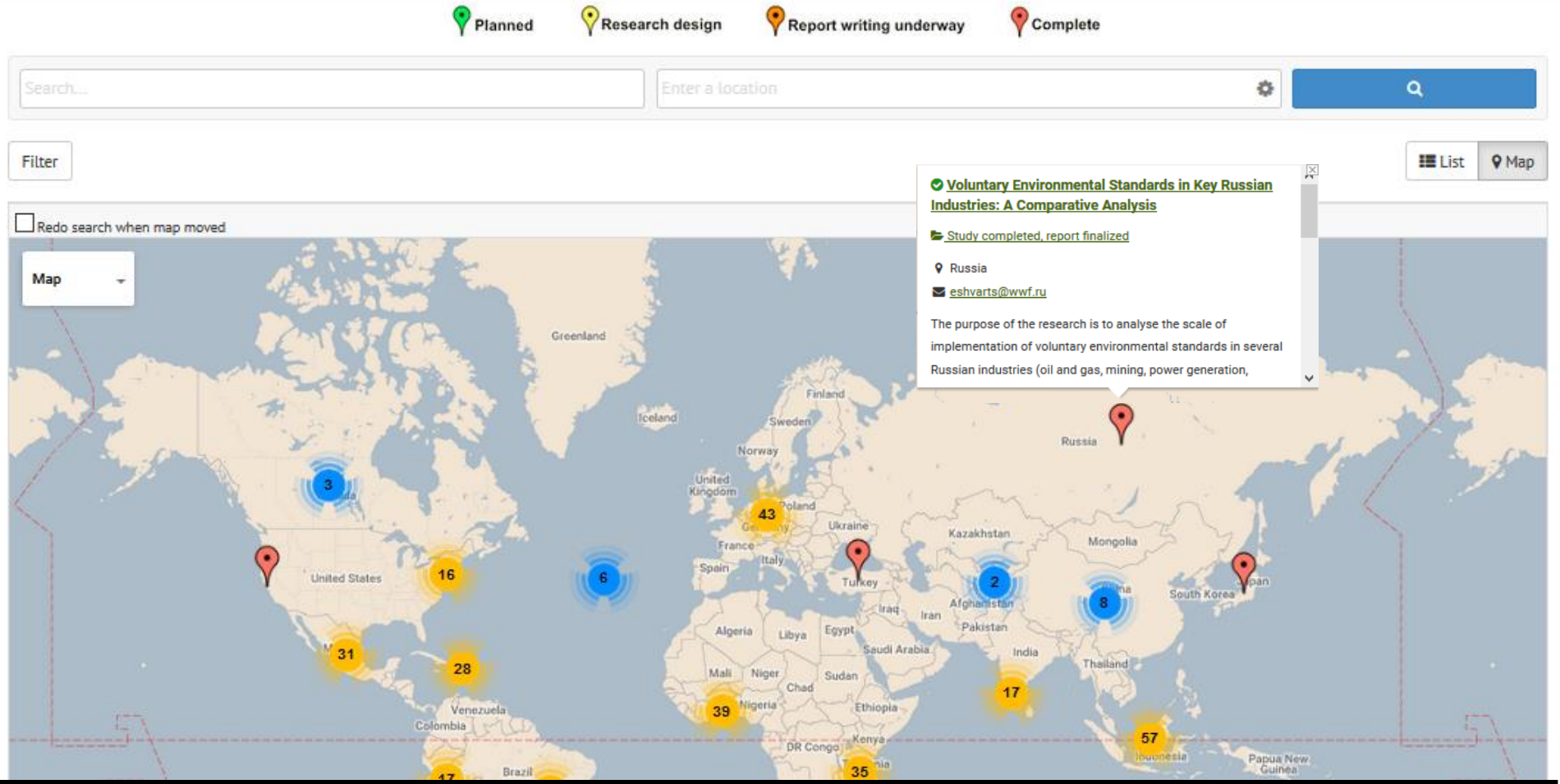
2017 Global Sustainability Standards Conference

27th - 29th June 2017
World Trade Center
Zürich, Switzerland

More details coming soon

iseal alliance


Sustainability Impacts Learnin...
www.sustainabilityimpactslearningplatform.org
Search
Most Visited
Getting Started
Home - Smartsheet.c...
https://www.google.c...
salesforce.com - Cust...
Home | ISEAL Alliance
Members Home - sim...
Toggl - Free Time Tra...
general | Impacts Tea...
Login
Sustainability Impacts Learning Platform
Getting started
Frequently Asked Questions
Contact
Map
Add Study
Discover
The Sustainability Impacts Learning Platform is a joint effort by ISEAL, the Sustainable Food Lab and WWF. It is intended to facilitate improved knowledge-sharing, collective learning, and collaboration towards increased sustainability in global supply chains.
Explore Map


Planned
Research design
Report writing underway
Complete
Search...
Enter a location
Filter
List
Map
Redo search when map moved
Map
Voluntary Environmental Standards in Key Russian Industries: A Comparative Analysis
Study completed, report finalized
Russia
eshvarts@wwf.ru
The purpose of the research is to analyse the scale of implementation of voluntary environmental standards in several Russian industries (oil and gas, mining, power generation,
Greenland
Iceland
Finland
Sweden
Norway
United Kingdom
Poland
Ukraine
France
Spain
Italy
Turkey
Russia
Kazakhstan
Mongolia
China
Japan
South Korea
North Korea
Afghanistan
Pakistan
Iran
Iraq
India
Thailand
Saudi Arabia
Egypt
Libya
Algeria
Mali
Niger
Chad
Sudan
Nigeria
Ethiopia
Kenya
DR Congo
Indonesia
Papua New Guinea
United States
Venezuela
Colombia
Brazil
3
16
6
31
28
43
2
8
17
39
57
35

Planned | Research design | Report writing underway | Complete

Search... | Enter a location

Filter | Sort by: **Newest First** | List | Map

Filter by phase of study:

Select:

Study is certified (or not):

Any

Filter by sector:

☐ Agriculture ☐ Forestry ☐ Seafood ☐ Mining

Filter by agriculture focus:

☐ Coffee ☐ Tea ☐ Cocoa ☐ Sugarcane ☐ Palm oil
☐ Soy ☐ Cotton ☐ Beef ☐ Other

Filter by forestry focus:

RSPO Impact Report 2016

Study completed, report finalized

Global

rspo@rspo.org

This report seeks to provide insight and an overview into the work being undertaken to ensure that palm oil is produced sustainably and becomes the norm in global supply chains.

Lead organization:

RSPO

Study sector:

Agriculture

Agriculture focus:

Palm oil

Study completed, report finalized

- Indonesia
- Mexico
- Peru
- Tanzania

v.j.nelson@gre.ac.uk

This evaluation aims to assess the impact of Fairtrade for coffee smallholders and their organisations to contribute to the evidence base on Fairtrade's impact to date and to inform Fairtrade on the potential to improve its impact in the future.

Lead organization:

Natural Resource Institute, University of Greenwich

Study sector:

Agriculture

Agriculture focus:

Coffee

Certification:

Fairtrade

Study type:

Outcome or Impact Evaluation

Study design & methods:

Control group(s) / counterfactual, Quantitative collection and analysis methods, Qualitative collection and analysis methods

Study scope:

Social issues, Economic issues

Primary Research Funders:

Fairtrade International

Link to study:

http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/1611_NRI_Coffee_Evaluation-final_report.pdf

Provide publication date of study if complete.

September 1, 2016

Please Share!

- Is your organisation is conducting or supporting a study on living income/actual income?
  - ***Insert the details in SILP!***
- Know of another organisation doing this type of research?
  - Ask if you can insert the details of the study in SILP or encourage them to do so.

iseal alliance

Add Study

Home / Add Study

Already registered? Click here to login.

Username *

E-mail Address *

Register now cancel

Add Study

Home / Add Study

Essential Info

Study title (if any) *

Name of the lead organization for this study *

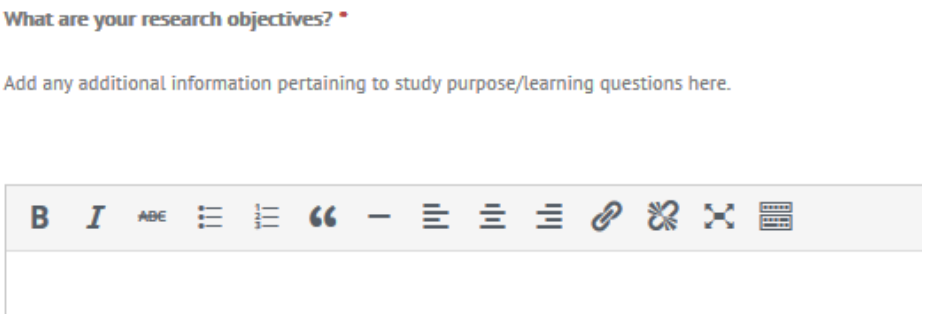
Select study sector: *

Select all that apply

- [ ] Agriculture
- [ ] Forestry
- [ ] Seafood
- [ ] Mining

Labelling Living Income Studies

- In the ‘add study’ form, when filling in this box:



Make sure to include the words **“living income benchmark”** and/or **“calculation of household income”.**

- **Please use these exact terms** as we will use these to run the search.

iseal alliance

Why add studies to SILP?

- On a quarterly basis, we will run reports to identify existing, upcoming, and finalised studies on this topic.
- We will present findings to the community to encourage collaboration and reduce duplication of efforts.

iseal alliance

CocoaAction's

Cocoa Farmer Economic Model

10/01/2017

Rationale
(original 2013 use-case)

What is necessary for a viable business case for farmers?

What is the expected impact of farm-level interventions on the business case?

A dynamic model is needed that:

1. Takes into account **relevant variables**
2. Allows the user to adjust the values (**adjustable variables**)
3. Shows the result of any particular combination of variables on the **income of a "typical" cocoa farmer**

Scenario testing can then be used to derive **strategic insights,** plan interventions accordingly and mitigation risk of failure.

Scope of the final model

In scope

1. Provide assumptions to **indicate business case on farm level**
2. **Inform and validate** CocoaAction strategy
3. Identify **sensitivity** of outcomes to certain variables
4. Derive **directional** strategic and policy implications
5. Inform about **magnitudes and timing of change**

Out of scope

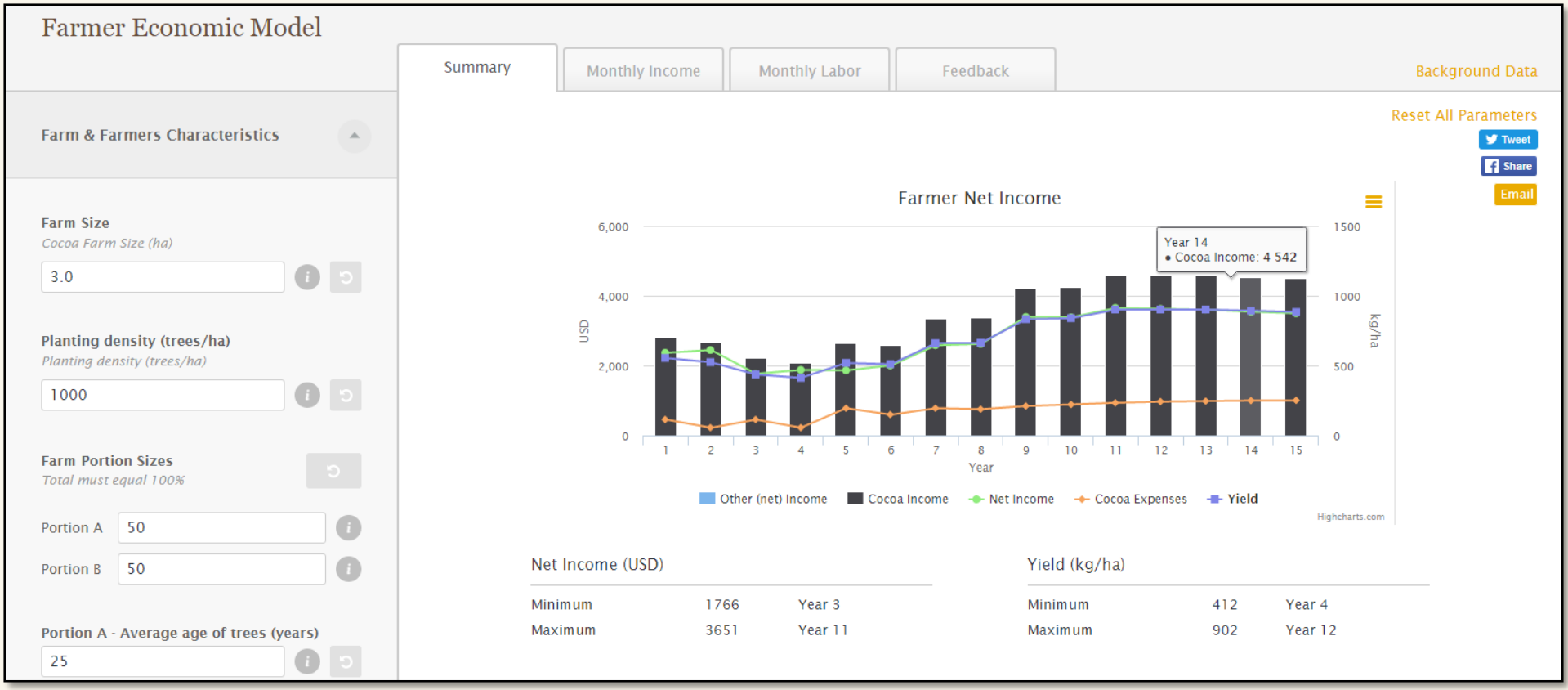
1. Recommend **specific or exact figures for individual cases** (e.g. optimal replanting rate)
2. Present an **accurate and realistic** view that fully represents a specific farmer's business case
3. Inform **commercial strategies**
4. Several additional **elements not currently included** (e.g. living income benchmark)

Interface: Variables

if you'd like, try it yourself here: https://hub.cocoaaction.org/econmodel/public/

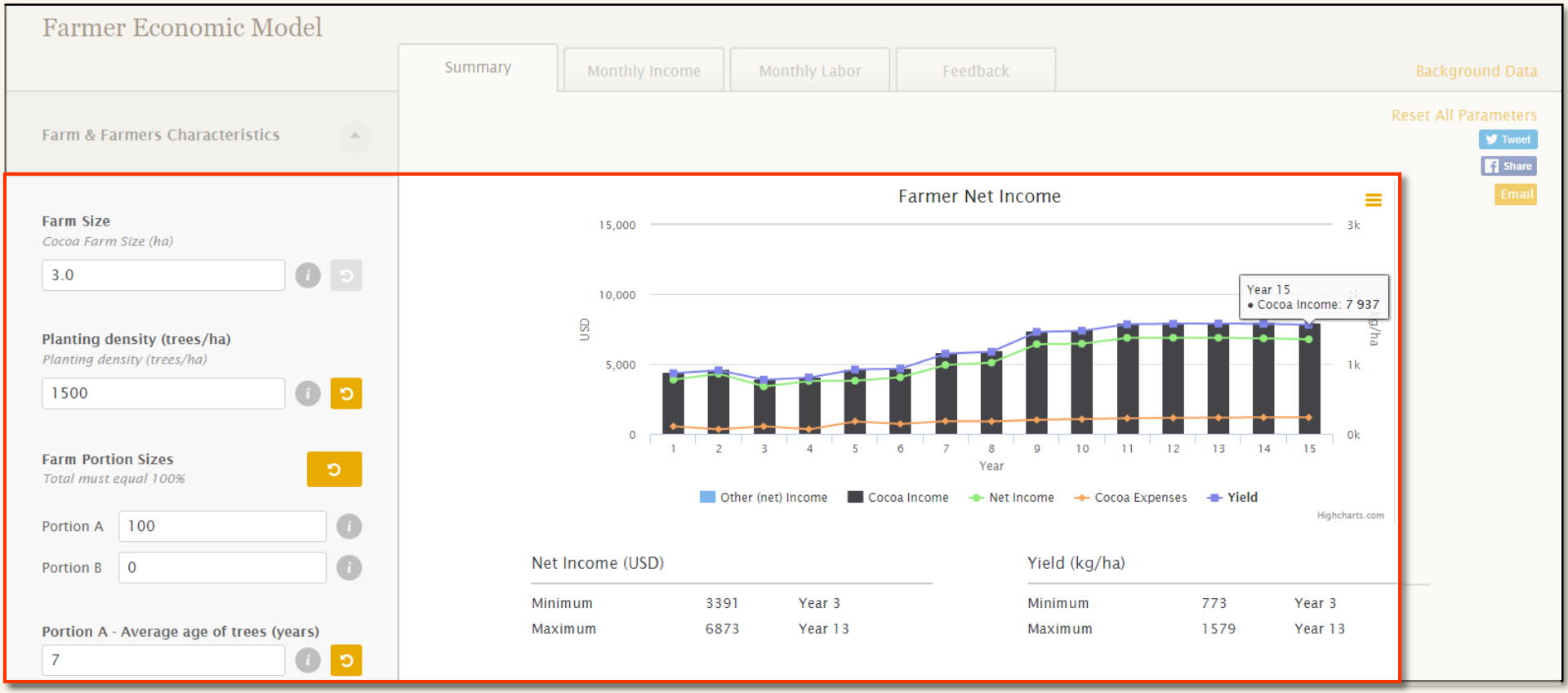
Adjustable variables

Interface: Changing the Variables



- Variables are modified interactively while viewing the live-output
- Over 50 modifiable variables provide an enormous amount of customizability—for the better and worse
- Initial default variable states are based on averages of background research and represent a ‘typical’ cocoa farm (if that exists…)

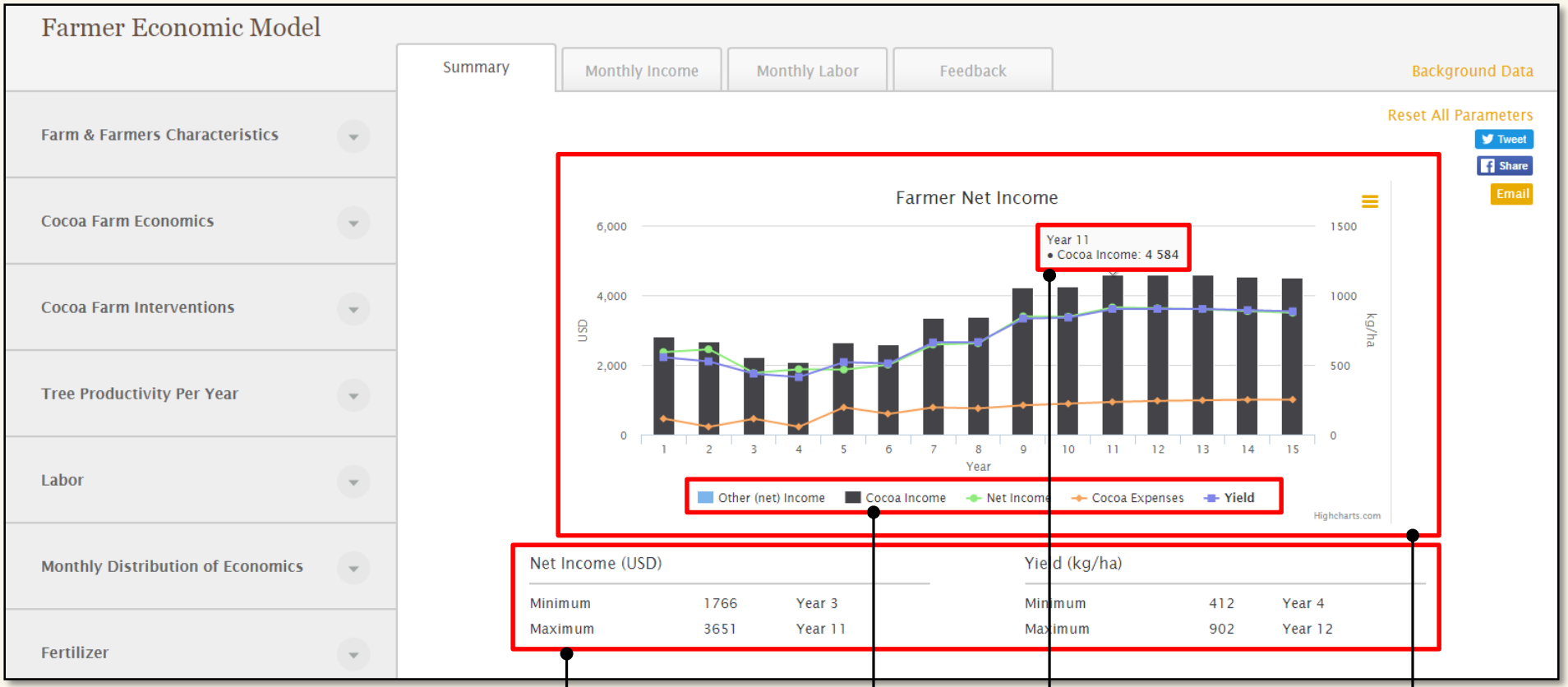
Interface: Changing the Variables



- All changes are immediately displayed in the graph window
- After adjusting a variable, a ‘rewind’ button allows to reset individual variables to their default state

Interface: Graph and Quick-Stats

- Clicking legend elements gives limited visualization control
- Hovering the mouse over graph elements shows data-details
- No full API support as of now, but definitely gauging interest for that



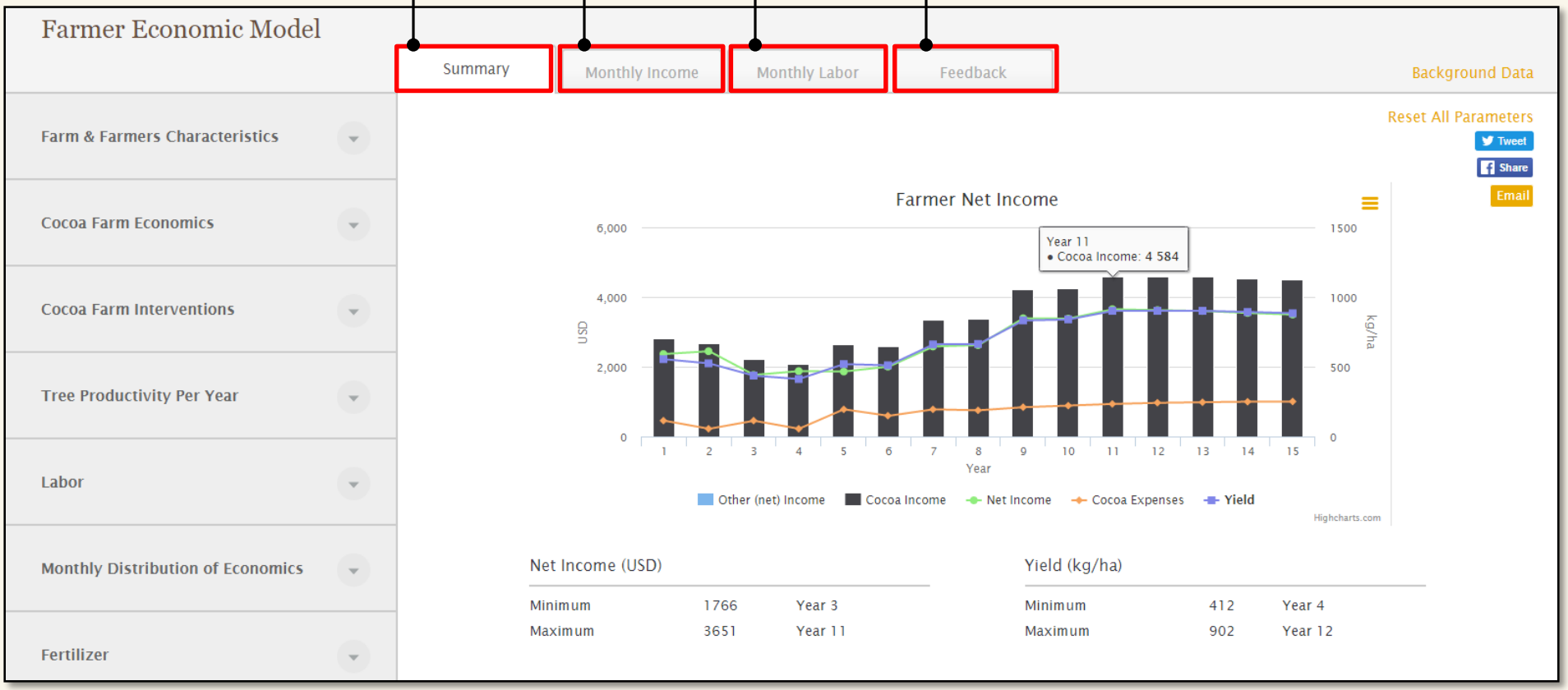
Interface: Seasonality & Feedback

Monthly cocoa income break-down

Monthly cocoa farm labor requirements break-down

Current view: main summary

Guide, feedback & discussion



Graph legend & control

Interface: Research & Social Media

Research data & parameter reset

Sharing & saving progress

Use Cases: Decision Support

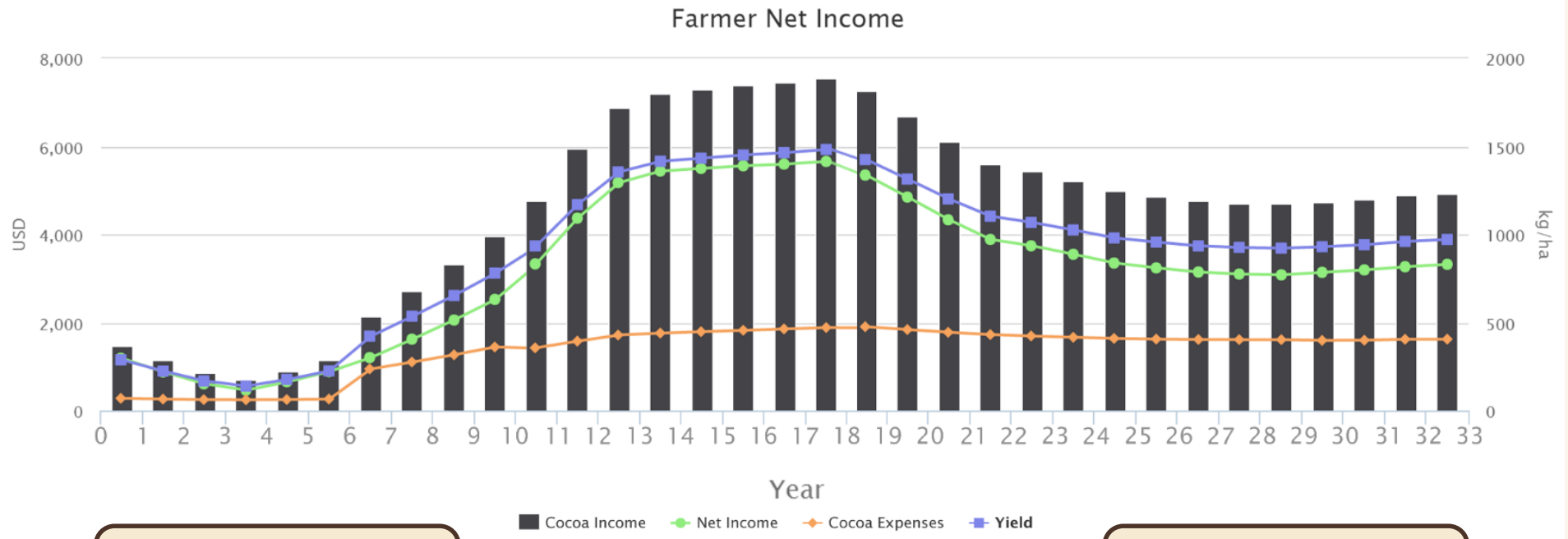
- Decision support tool, especially in complex multi-stakeholder arrangements:
  - **Alignment around key assumptions**
  - **Clearly establish an independent, data driven basis for policy discussion**
  - **Agreeing on empirical methods for joint decision making**

At a secret location, a CocoaAction meeting some time in February 2013…

Use Cases: Project Risk Management

OPPORTUNITY International

- Entirely over-aged farm
- 1ha size at 1500 trees/ha
- No additional income
- 10% Replanting for 10 years
- GAP & fertilizer starts at Yr 7
- 5% replacement from Yr 18



9 Years of Low income

- Production Down
- Labour for Replanting
- Income Down

10-18 Years

- Increasing Production
- No Replanting
- Net Income +/- $ 5,500

18 Onwards

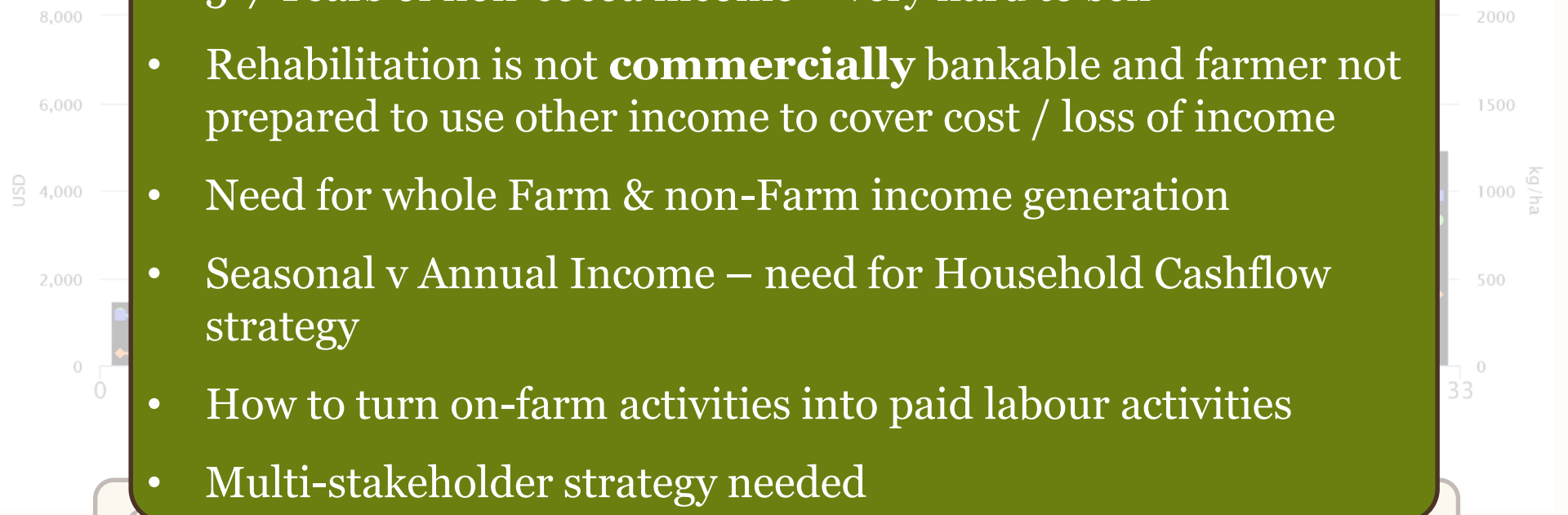
- Declining Production
- 5% Replacement
- Net Income Settles +/- $ 3,800

Use Cases: Project Risk Management

OPPORTUNITY International

- Entirely over-aged farm
- 1ha size at 1500 trees/ha
- No additional income
- 10% Replanting for 10 years
- GAP & fertilizer starts at Yr 7
- 5% replacement from Yr 18

- 5-7 Years of non-cocoa income – very hard to sell
- Rehabilitation is not **commercially** bankable and farmer not prepared to use other income to cover cost / loss of income
- Need for whole Farm & non-Farm income generation
- Seasonal v Annual Income – need for Household Cashflow strategy
- How to turn on-farm activities into paid labour activities
- Multi-stakeholder strategy needed



9 Years of Low income

- Production Down
- Labour for Replanting
- Income Down

10-18 Years

- Increasing Production
- No Replanting
- Net Income +/- $ 5,500

18 Onwards

- Declining Production
- 5% Replacement
- Net Income Settles +/- $ 3,800

Discussion

Strategic Questions for CocoaAction suggested by the Model:

- How well **do we know our farmers**—do we address mostly extreme cases, or a lot of in-between cases? Do existing outreach systems allow "cherry picking" to reach programmatic targets?
- Are we prepared for the worst-case farms to **miss their short term yield target?** No form of intervention allows to reap sufficient benefits within the next 5 years on those farms.
- Are we willing to support the worst-case farmers with more aggressive intervention to get them on the **right track for long term success**? Protection from the dramatic income drop is important…
- How can we use **the CocoaAction minimum commitments** to get to know the extreme cases and engage farmers on a farm-needs basis in the long-term?
- How do we adapt our thinking and support models? The short-term worst-cases are in reality the **long-term best opportunities** for growth

Farmer Economic Modelling white paper

NewForesight and WCF would like to stimulate an open discussion about the (economic, financial) conditions under which it is possible to create a true sustainable (cocoa) farming model, and what needs to be done in order to make this possible

What do we want to answer?

- General views on role of economic modelling in agriculture sustainability
- Feedback to CocoaAction Farmer Economic Model + improvement opportunities

- Implications for sustainability in agriculture:
  - Which conditions are needed to reach a truly sustainable farming model in cocoa?
  - What needs to happen to make this possible? (E.g., financing)
  - (How) does such a tool get used?
  - What are lessons from other sectors?
  - What are benefits?
  - How can this benefit learning?
  - How to generate a collaborative approach to learning and improvement? (E.g., crowd-sourcing of data, assumptions, findings)

What would this process look like?

We propose the following process:

1. WCF and NF send preparation materials including:
   - Online model instructions
   - Guidance questions
2. WCF and NF have a webinar to explain how the model works (for participants who wish to have additional guidance)
3. Participants test the model and note their feedback to questions in an online survey
4. WCF and NF organize a webinar to solicit discussion and feedback from participants
5. Results will be summarized in a white paper

Are you interested to take part? If so, please contact:

Manuel Kiewisch, WCF (manuel.kiewisch@worldcocoa.org)

Will Saab, NewForesight (william.saab@newforesight.com)

BACKUP SLIDES

(additional information)

Modeling Principles

- The model focuses on ***socio-economic*** parameters of faming and considers environmental parameters only implicitly (i.e. expressed in default variable states and seasonality settings)

- **Background assumptions**:
  - Stable environmental conditions over time
  - Average growing conditions for West Africa (i.e. regarding soil/ topography etc.)
  - The farm management set-up is rather homogeneous (model can simulate heterogeneity to a certain degree via two-plot settings)
  - Economies of scale are not considered (i.e. influence of variables is strictly linear)
  - Start/ end time of management practices can be simulated, but no change in management practices over the time-frame of 15 years (however, this can be simulated by merging several model outputs, see slide 13)

Development of the Model

- **Initial use case**: decision support tool forhigh-level committee of CocoaAction
- **Initial development:** excel based model by NewForesight Consulting

- **Added use case**: learning tool for wider CocoaAction partnership
- **Added development:** programming of an open-source online interface as part of the CocoaAction Hub (account based platform)

- **Added use case**: sector wide learning tool for all interested parties
- **Added development:** provision of a parallel model instance on an open website as a spin-off of the CocoaAction Hub

https://hub.cocoaaction.org/econmodel/public/

Learnings: Some CocoaAction insight

Scenario 1: Status Quo

- "Business as usual": cocoa farming without planned interventions on old farms

Scenario 2: Slow rehabilitation

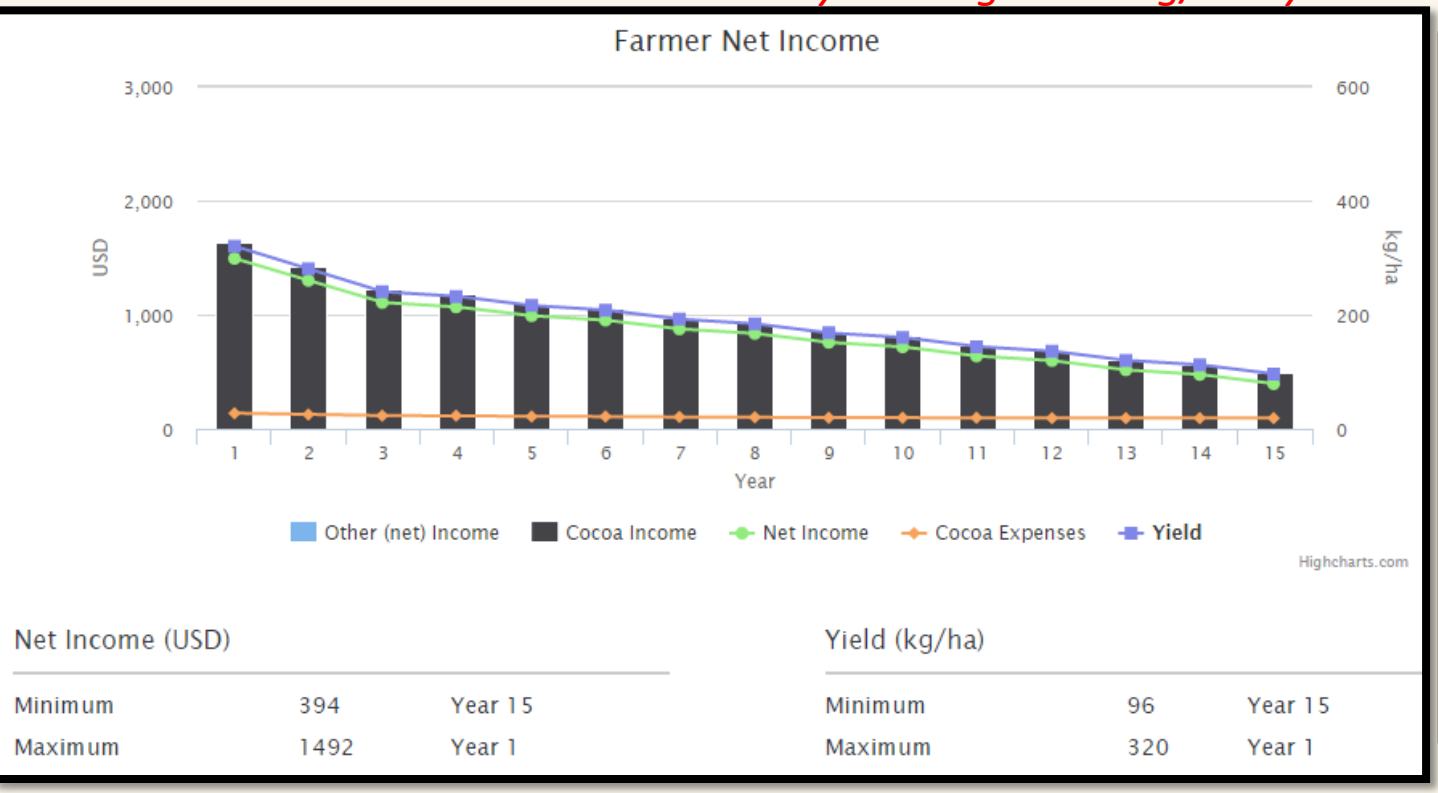
- Slow replanting rate and interventions package

Scenario 3: Aggressive rehabilitation

- Aggressive replanting rate and interventions package

Scenario 1: Status Quo (Base case scenario)

CocoaAction yield target: 700kg/ha by 2020



Net Income (USD)		
Minimum	394	Year 15
Maximum	1492	Year 1

Yield (kg/ha)		
Minimum	96	Year 15
Maximum	320	Year 1

Strategic Insights

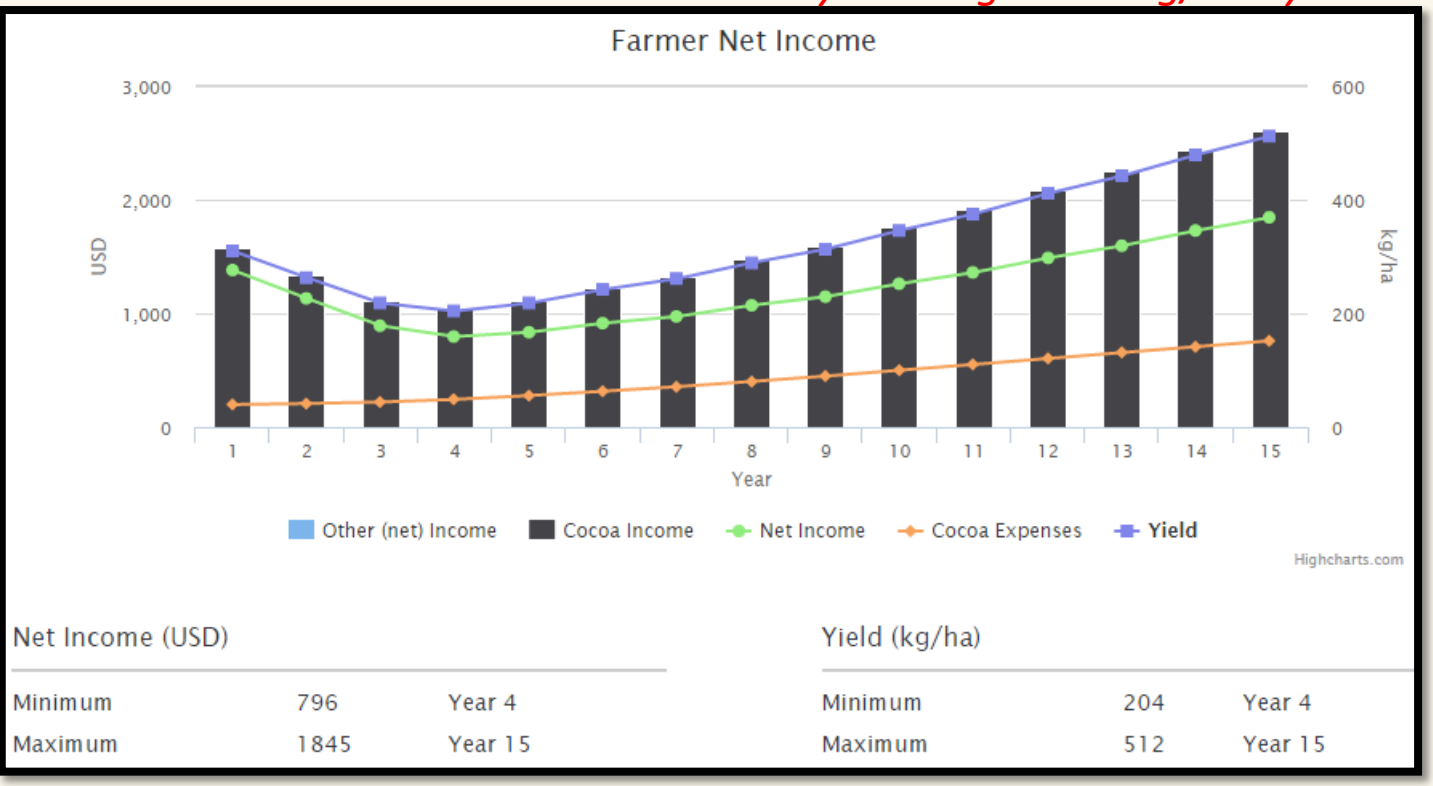
- Decreasing cocoa income over the years
- Main reason: old age of current tree stock
- Strategic insights: importance of rehabilitation of cocoa farms in Ivory Coast and Ghana clearly established

Instructions

- *Reset to the default variables ("reset all variables")*
- *Adjust the tree age to 28 years for all trees on the farm (Farm & Farmer Characteristics)*
- *Deactivate GAP interventions, deactivate fertilizer interventions, select "no rehabilitation" as rehabilitation type (Cocoa Farm Interventions)*

Scenario 2: Slow Rehabilitation

CocoaAction yield target: 700kg/ha by 2020



Net Income (USD)		
Minimum	796	Year 4
Maximum	1845	Year 15

Yield (kg/ha)		
Minimum	204	Year 4
Maximum	512	Year 15

Strategic Insights

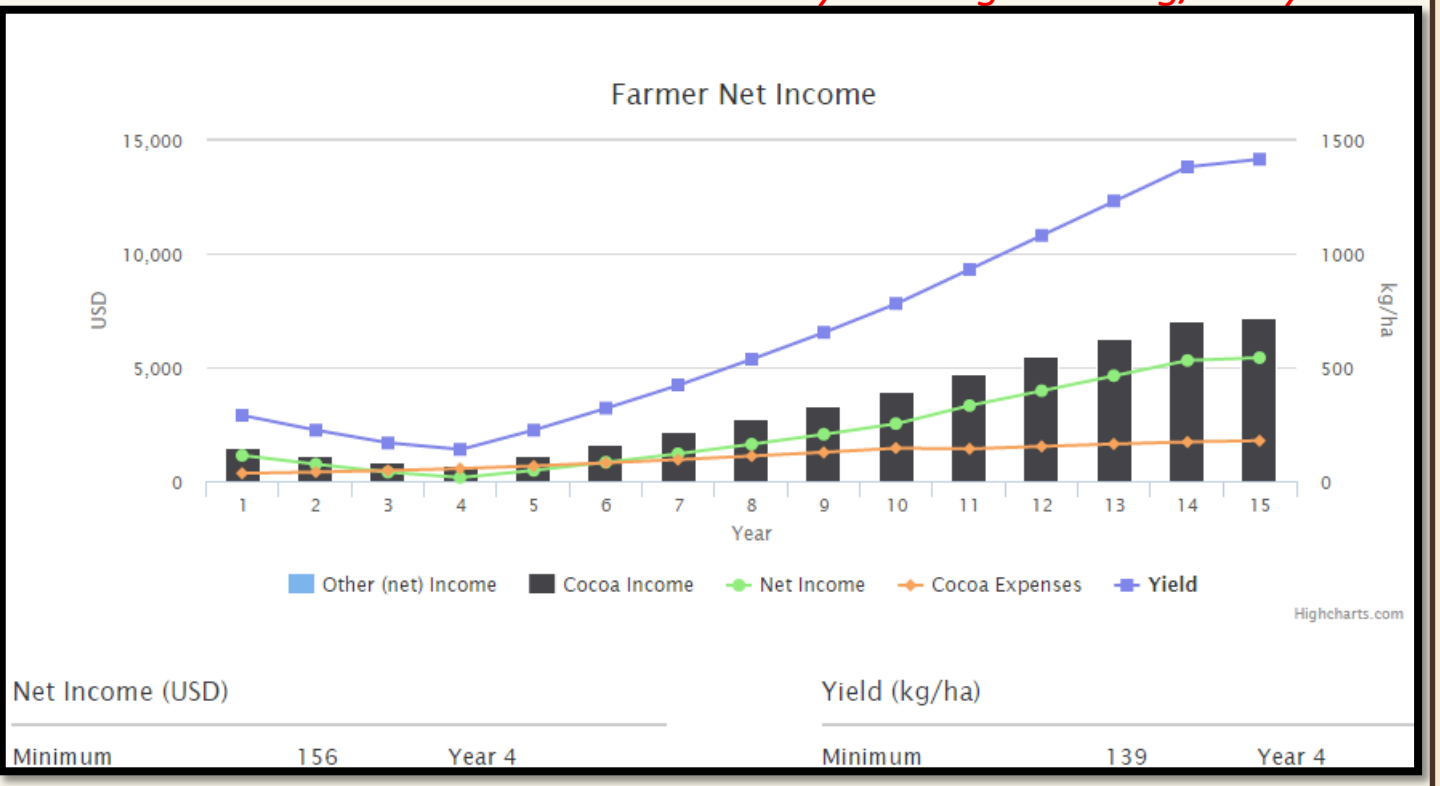
- Replanting rate not fast enough to counter decreasing yield on older stock *(see what happens when you switch off GAPs/ Fert. application)*
- Use of fertilizers and crop protection only on newly-replanted part of farm keeps input costs relatively low and boosts yield from year 6-7 on *(compare the effect when you activate interventions on old & new farm area)*
- By year 15 (2030), 55% of the farm will still be old stock trees

Instructions

- *Reset to the default variables ("reset all variables")*
- *Adjust the tree age to 28 years for all trees on the farm (Farm & Farmer Characteristics)*
- *Adjust Fertilizer & GAP interventions to start at year 1 (Cocoa Farm Interventions)*
- *Change the rehabilitation % to 3 per year (Cocoa Farm Interventions)*
- *Adjust rehabilitation to occur every 1 year (Cocoa Farm Interventions)*

Scenario 3: Aggressive Rehabilitation

CocoaAction yield target: 700kg/ha by 2020



Net Income (USD)		
Minimum	156	Year 4

Yield (kg/ha)		
Minimum	139	Year 4

Strategic Insights

- Viable income level of over 3000$US reached in year 10-11
- Initial income drop (*'valley of death'*) is a serious problem that will prevent a farmer from rapid rehabilitation unless support is provided (income drop from 1100$US to 150$US between year 1 and 4)
- Risk of unavailability of planting material

Instructions

- *Reset to the default variables ("reset all variables")*
- *Adjust the tree age to 28 years for all trees on the farm (Farm & Farmer Characteristics)*
- *Adjust Fertilizer & GAP interventions to start at year 1 (Cocoa Farm Interventions)*
- *Change the rehabilitation % to 10 per year (Cocoa Farm Interventions)*
- *Adjust rehabilitation to occur every 1 year (Cocoa Farm Interventions)*
- *Adjust the rehabilitation limit to 100% of the farm stock (Cocoa Farm Interventions)*

Interpretation and Things to Try-Out

- All presented scenarios consider an extreme case of a farm: the over-aged, homogeneous farm. Remember that not all farms are like that!
- Changing farm settings and comparing the model outcomes will show you that economic success of cocoa farming is very closely linked to certain farm variables
- The cocoa farmer and their farm context is the whole key to understanding potential success of farm intervention programs
- <u>Try Out</u>
  → what interventions would a farmer need with cocoa that is 10 years old to reach an income of around 3000$ and to sustain it?
  → what effect does farm heterogeneity have (one farm with 2 different age classes)?