The Climate Risk Planning & Managing Tool for Development Programmes in Agri-Food Systems (CRISP)

User Guide

October 2023

Content

1. Introduction

This guide is addressed to users of the Climate Risk Planning and Management (CRISP) Tool. The tool was created for actors in Agri-Food systems development activities, including project coordinators, project managers, government officials, and NGOs engaged in planning and implementing climate adaptation projects. It is intended to:

- Provide a background on the concepts and resources upon which CRISP is based
- Help users navigate and use the CRISP online tool
- Illustrate different pathways through which practitioners can use CRISP to integrate climate-related risk aspects into their project proposal development and/or implementation.

Why CRISP?

Agri-Food system development programmes are increasingly seeking to mainstream climate action into their portfolios due to the threat climate change poses to their success. A wide range of methods and tools exist to incorporate climate risk analysis and adaptation options, but there is no 'ready-to-use' tool that permits project planners and managers to conduct a cost- and time-effective climate risk screening considering the specific characteristics of agriculture and agricultural land use systems. Available tools are typically neither sector-specific nor freely available; they are often time-consuming, complex to use, and typically rely on extensive stakeholder engagement. Also, the climate change knowledge base is expanding rapidly and hence it is increasingly difficult to determine which information to use in decision making. The CRISP tool has been developed to fill this gap and to allow for the articulation of adaptation hypotheses building on the concept of climate-focused impact chains.

The concept of Agri-Food Systems in CRISP

Food is the basis for everyday life and the agricultural systems from which it is produced and consumed are closely embedded in the way societies and economies work. When considering how climate is affecting people's lives it is thus necessary to look at agri-food systems and their different dimensions: how our food is produced through agriculture, the biophysical as well as socio-economic characteristics of those production systems, the impact of that production on natural resources, how food is processed and transported, who has access to it and how decisions are taken. Climate change will have impacts along each of these stages and levels of Agri-Food systems. Dealing with climate risks and adapting to climate change need to go beyond incremental and siloed actions and aim for integrated and transformative approaches.

Climate-related hazards affect agri-food systems as a whole and particularly the most vulnerable communities within them, such as smallholder farmers, pastoralists, fisherfolk and marginalised groups like women, indigenous peoples, and landless people. At the same time, women and youth are often the agents of change that need to be supported in this role. As a tool specifically designed to support agri-food projects in mainstreaming climate change, CRISP has thus selected an Agri-Food systems perspective to be able to assess vulnerability

to climate change among these different groups. The impacts of climate change are presented through impact chains that involve aspects of agri-food systems, and adaptation options that span the process from primary production through processing and transport.

Agri-Food systems are at the centre of livelihoods of vulnerable communities in many countries. They are thus the entry point for understanding climate-related risks through CRISP in impact chains based on agricultural systems. These impact chains aim to illustrate the cascading risks on Agri-Food systems.

- Looking at the resulting **impacts**, CRISP includes the direct impacts on agricultural production as well as further aspects within value chains and the Agri-Food system more generally.
- The analysis of **vulnerability** in the CRISP impact chains shows the biophysical impacts of climate change on Agri-Food systems. This is combined with socio-economic aspects which broaden the perspective to other aspects of people's lives and livelihoods.
- For the **adaptation options,** CRISP aims to reflect the complex relationships between the environmental, economic, social and political pillars of sustainable development within Agri-Food systems. This translates into adaptation options in the area of agricultural production (e.g. improved technical and organisational capacities, agricultural science, research and innovation, inclusion of indigenous and local knowledge), food and nutrition security (e.g. improving income generation, decent work and social protection) and broader rural development (e.g. governance and participation of vulnerable communities or the rehabilitation of natural resources).

2. What can you do with CRISP?

CRISP is an interactive tool that supports agricultural and rural development project planners and managers to strengthen funding proposals and assist them in planning and implementing relevant climate change adaptation measures for specific agri-food systems. CRISP stands for "Climate Risk Planning & Managing Tool for Development Programmes in Agri-Food Systems" and specifically aims to:

- Help systematically navigate and analyse in a visual manner climatic hazards, impacts of a specific agri-food system, its vulnerabilities and relevant adaptation options.

- Highlight entry points to mainstream climate risk management into agriculture, rural development and/or food and nutrition security projects.

- Provide insights to articulate science-based adaptation hypotheses, identify cascading impacts and review relevant adaptation options, all backstopped by scientific literature.

- Support capacity building, awareness creation and/or participatory processes aiming at identifying/validating relevant interventions to address Agri-Food system-specific climate related risks and impacts.

● Point the user towards additional science-driven available tools that can support them beyond the climate risk screening by strengthening climate adaptation related actions along all the phases of the project cycle (planning, implementation and monitoring and evaluation).

3. Key concepts

In order to improve your experience when using the tool, please take a few moments to get familiar with the core concepts upon which the CRISP tool is based: climate risk; impact chains and farming systems.

Understanding climate risk

It is worth keeping in mind that climate risks are highly context specific. In the context of climate change, "…they result from dynamic interactions of climate-related hazards with the levels of exposure and vulnerability of the affected human or ecological system to those hazards" (Figure 1) (IPCC AR6 Glossary).

Figure 1: The IPCC AR6 risk concept (adapted from IPCC, 2022)

Climate risk impact chains

In the CRISP tool you will find the climate risk information displayed according to the concept of climate risk impact chains outlined in the Climate Risk Sourcebook[1].

Adapted from the IPCC risk concept, an impact chain visualises, in a schematic way, the **relationships** between climate related hazards, impacts, and vulnerability factors. The impact chain concept illustrates **how these factors all influence each other** and together constitute the climate risk. Adaptation options are added to show entry points for climate risk management aiming at decreasing vulnerabilities (Figure 2). Impacts and adaptation options

[1] https://www.adaptationcommunity.net/climate-risk-assessment-management/climate-risk-sourcebook/

are two elements that were added in the impact chain visualisation compared with the IPCC risk concept.

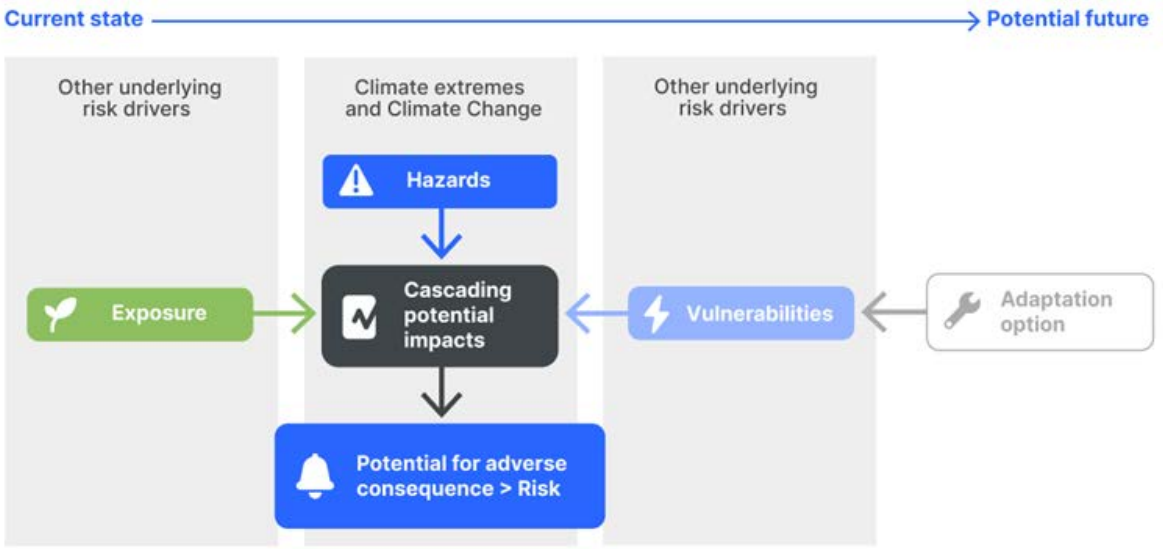


Figure 2: Translation of the IPCC AR6 risk concept into an impact chain visualisation adapted from the Climate Risk Sourcebook.

A **climate risk impact chain is always context-specific** and thus helps to illustrate and understand the specific factors of climate risk in a given location. Building on a large scientific knowledge base, CRISP is designed to help users generate an initial impact chain for a selected agri-food system (see section iii).

Key Terms

If you are new to the concept of impact chains and climate change adaptation, you have probably realised there is a lot of terminology that is not straightforward to understand at first. In the box below we provide some of the key terms you will encounter when using the CRISP tool to develop your climate impact chains and delve deeper into the climate adaptation field.

Hazard: any type of climate extremes (heatwaves, droughts, extreme precipitation events, storms), the impact of climate change on such extremes (increasing intensity and frequency of extreme events) as well as slow-onset processes (increasing temperatures, increasing aridity, glacier melt or sea-level rise) that are triggering adverse consequences for human or ecological systems (IPCC, 2021).

***Exposure*:** who or what is exposed to the risk. This could be "people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets" (IPCC, 2021). Examples include the number of people within an exposed system, the area of cropland within a region. The higher the degree of exposure that could be adversely affected, the higher the climate risk.

***Vulnerability*:** is the predisposition to be adversely affected by climate impacts. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2021). Vulnerability includes all relevant environmental,

physical, technical, social, cultural, economic, institutional, or policy-related factors that contribute to a susceptibility and/or a lack of capacity to prepare, prevent, respond, cope or adapt.

***Impacts*:** Impacts describe the consequences or outcomes of climate change hazards on natural and human systems. Impacts normally refer to the "effects on lives, livelihoods, health and wellbeing, ecosystems and species, economic, social and cultural assets, services and infrastructure (IPCC, 2021).

Risk: Risk is what results when we combine the elements above–when hazards come in contact with exposure and vulnerability as seen in Figure 1. It is the potential for adverse consequences for human or ecological systems. Risks can arise from potential impacts of climate change as well as human responses to climate change. (IPCC, 2021).

Adaptation options: those are practices, technologies, services/solutions that can mitigate one or multiple vulnerability factors and thus reduce the overall climate-related risk, by lowering the degree of exposure to climate-related hazards or by mitigating cascading impacts (see also IPCC, 2022).

Farming systems as a unit of analysis

As you get ready to use the CRISP tool, it is crucial to keep in mind that the tool's knowledge base does not have information for every location on Earth but uses information corresponding to **the level of farming systems** to identify its relevant climate risks, impacts, vulnerabilities, and adaptation options (as opposed to a location specific, geo-referenced based analysis).

We use the farming system classification as a proxy for Agri-Food systems because the associated climate hazards and impacts do not change when considering the addition of the 'food' element to the agri-food system (i.e., processing, transporting, consumption). The CRISP tool considers additional vulnerabilities and sensitivities corresponding to the broader Agri-Food system when presenting the impact chains.

The CRISP tool uses the Dixon et al. 2001 (updated for Africa in 2019, (Dixon et al., 2019)) farming system classification to contextualise the climate risk impact chains to a **manageable level of analysis**. In this classification system, a farming system refers to a *population of individual farm systems that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints, and for which similar development strategies and interventions would be appropriate. Depending on the scale of the analysis, a farming system can encompass a few dozen or many millions of households'.*[2]

The Dixon classification of farming systems is based on similar agroecological, physical, economic and cultural environments within which farmers and their families live (Dixon et al., 2001). Data on the systems' characteristics were obtained from Dixon et al. (2001) and Dixon et al., 2019. These variables give a high-level [1] indication of the exposure and vulnerability of the system to climate change, the potential for agricultural development and the opportunity to alleviate poverty and food insecurity.

[2] Dixon et al., 2001- https://www.fao.org/3/Y1860E/y1860e00.htm

The full classification system distinguishes 72 farming systems in six macro regions; however, the current version of CRISP includes 23 farming systems in five macro regions: Sub-Saharan Africa; Middle East and North Africa, East Asia and Pacific, South Asia and Latin America and Caribbean. Those 23 systems were selected based on geographical region (areas where agri-food system development projects are likely to be based, i.e., areas with relatively higher levels of poverty), representation of people involved in agri-food systems (those representing large numbers of people relying on agri-food systems for their livelihoods), and geographical spread (at least three in each focus region). The full list of farming systems can be accessed here.

4. Evidence base of the CRISP Tool

CRISP is supported by a knowledge base built from a sound desktop review of **existing scientific literature** (total of 1225 documents) on climate change impacts and adaptation in the selected Agri-Food systems. The search was conducted using keywords, e.g., climate change, climate hazards, impact, climate risk, the name of the agricultural system and the region within which it was located. Once a general understanding of the climate risks, hazards and impacts was reached, more focused searches took place. Peer-reviewed journal articles are the predominant research material used. Articles published within the past decade were given preference, however, for under-researched Agri-Food systems this was waived. Other important resources included:

- Agri-Food systems – Dixon et al. (2001) Farming Systems and Poverty and Farming Systems and Food Security in Africa;
- Climate trends, hazards and risk - IPCC's AR5 and 6th Assessment Report (AR6) (finalised sections and regional fact sheets);
- Vulnerabilities (country-level) - World Bank Data; and
- Climate change, agriculture and adaptation information - Consultative Group on International Agricultural Research's (CGIAR) programme on Climate Change Agriculture and Food Security (CCAFS).

The information was documented in a Microsoft Excel database and categorised as follows:

• **Climate hazards** – e.g., temperature related, rainfall related, maritime related, wind related, season related.

• **Impacts -** biophysical (e.g., pest and disease outbreaks, heat stress, water scarcity, flooding, reduced crop productivity/failure) and socioeconomic (e.g., increase in poverty, increase in food insecurity, loss of income).

• **Vulnerabilities** - institutions and policies (e.g., weak land tenure, conflict prone area); economic, financial and markets (e.g., low access to markets, unstable commodity prices, lack of access to risk insurance); human capital, gender and agricultural knowledge (e.g., poor water use efficiency and management, low awareness of climate change, unequal opportunities for women); sensitivity/susceptibility to harm (e.g. unfavourable soil conditions, poor water quality, high prevalence of invasive plant species); and lack of capacity to cope and

adapt (e.g., lack of access to inputs, limited uptake of modern technology, inadequate irrigation systems).

• **Adaptation options** – natural capital (e.g., wetland restoration, reforestation, riparian buffer zones); physical capital (e.g., water harvesting and storage infrastructure, road infrastructure, irrigation systems); human capital (e.g., improved varieties, sustainable agricultural practices, capacity building of agricultural extension agents); social capital (e.g., farmer organisations, water user associations, networking and knowledge exchange); political capital (e.g., land tenure reform, improve access to climate information, disaster recovery strategies); and financial capital (e.g., risk insurance schemes, credit services, payment for ecosystem services).

Climate hazards were linked to the relevant biophysical and social impacts, with impact-to-impact connections also defined. The agricultural system vulnerabilities were linked to the impacts and the adaptation options to vulnerabilities. Underlying factors such as exposure were linked to the overall risks. As agricultural systems are complex, comprising a variety of commodities and are located within multiple, biophysically, and socioeconomically diverse countries, to develop simple yet sufficiently informative impact chains required a level of generalisation. However, detail was retained in descriptive text passages for each factor and connection.

The agricultural systems encompassed several different countries, so some vulnerabilities such as poverty and education levels tended to vary by location. For such cases, a tag 'location specific' was allocated with a link to an external database, such as World Bank Data, for the CRISP tool user to gather additional country-specific information. Furthermore, to ensure the adaptation options were easily accessible to the tool user, they were tagged according to the scale of implementation e.g. farm-, community- or policy-level, the type of practice recommended (e.g., climate-smart agriculture, conservation agriculture, ecosystem-based adaptation), and whether the actions required capacity building, and were network or partnership dependent.

The impact chain concept

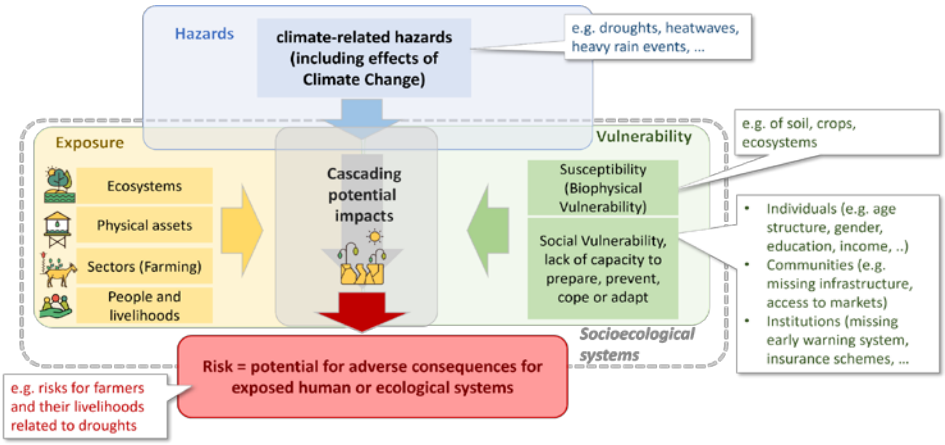


Figure 3. Structure and key elements of an impact chain (adapted from Eurac Research, 2021).

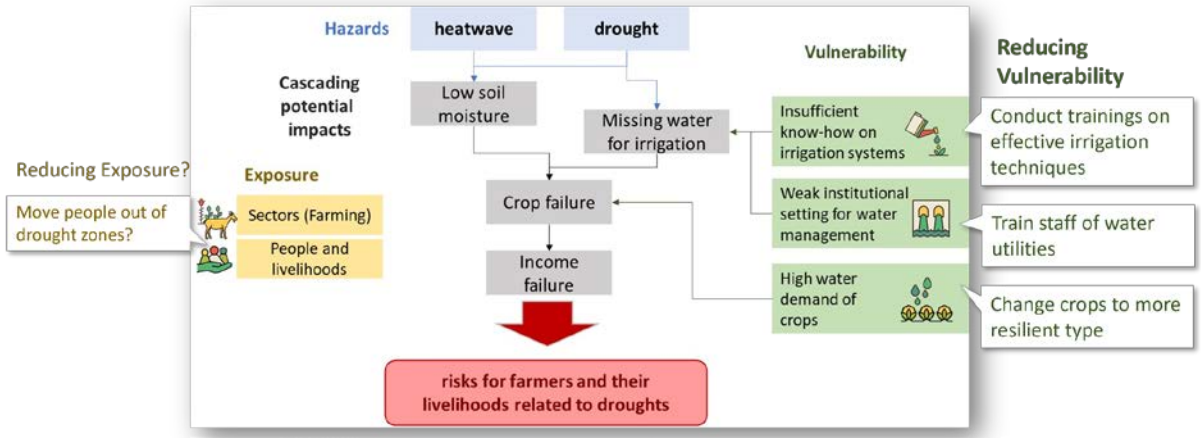


Figure 4. Identifying suitable adaptation options (adapted from Eurac Research, 2021).

The concept of an impact chain is illustrated in Figures 3 while Figure 4 shows a concrete example where the climate hazard is drought which causes the direct physical impacts of soil water deficit and depletion of irrigation water. This leads to a sequence of intermediate impacts (i.e., reduced crop yields or failure and loss of income), which when taken in the context of the system's vulnerabilities of inefficient irrigation systems, weak institutional setting for water management and high-water demand of crops in conjunction with the size of the agricultural system's population (exposure), leads to the risk of a loss of livelihoods for smallholder farmers.

The adaptation options identified to reduce the climate risk include moving affected farming communities out of drought zones, using renewable energy such as solar to reduce atmospheric carbon emissions, adopting water harvesting and storage infrastructure, establishing water user associations and planting drought tolerant crop varieties.

Expert validation workshops

The elaborated impact chains were validated through virtual peer-review workshops with experts and key stakeholders from the respective agricultural systems in order to ensure the inclusion of locally relevant factors and proven context-specific adaptation options. The invited experts reviewed the impact chains initially developed and suggested modifications and inclusions based on their professional local knowledge and experience. The impact chains were then updated accordingly.

5. Step-by-Step Guide

Welcome to our comprehensive Step-by-Step Guide designed to help you make the most out of CRISP tool. Whether you are a new user or looking to explore advanced features, this guide will walk you through the process from start to finish. By following these steps, you will gain a solid understanding of how to use CRISP and unleash its full potential.

What to expect

In this section, we will provide you with detailed instructions on how to navigate CRISP. Each step is accompanied by clear explanations and visual aids to make the learning process seamless and enjoyable. Whether you are aiming to complete a simple action or explore more complex functionalities this guide covers all the options.

How to use this Guide

Feel free to follow along step by step or use this guide as a reference when you encounter specific challenges. You can easily navigate between sections to find the information you need. Do not hesitate to experiment with CRISP as you go through the guide.

Step 1: To begin

Visit the CRISP homepage: https://crisp.cgiar.org/

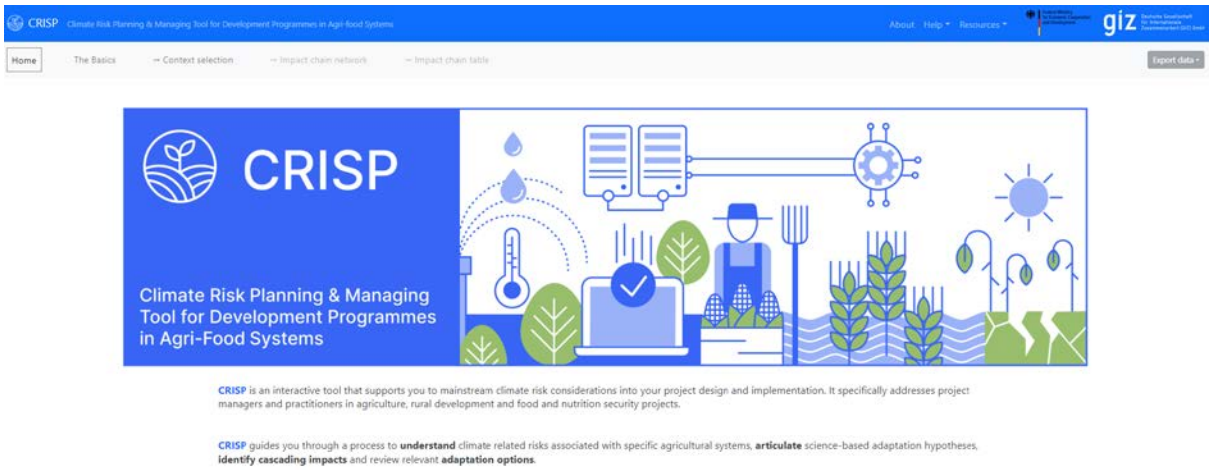


Figure 5: The home page

- Scroll down to read what CRISP is. You will also get a clear picture of what you can do with CRISP and what you cannot do.
- For a quick introduction, please click the 'Basics' button along the top

Step 2: Get the basics

You now have a picture of what CRISP tool can do and cannot do but before moving forward you will need to get a good sense of some key concepts related to the tool.

- In the upper menu, **click on the "The basics" tab** and read through this section by scrolling downwards. If you are not already familiar with them, take the time to understand the following concepts:
- Climate risk
- Impact chains
- Agricultural/farming systems

At the bottom of this section, you will be able to explore an interactive map to **find out the farming system(s) of your interest.**

- Click on the country of choice. You can zoom in or out by use of the plus (+) and minus (-) signs of the left of the map (see figure 6). Clicking on the arrow in the top left of the map window reveals the layers available. Click on the small arrow to the right of each of the macro-region layers to visualise the legend.

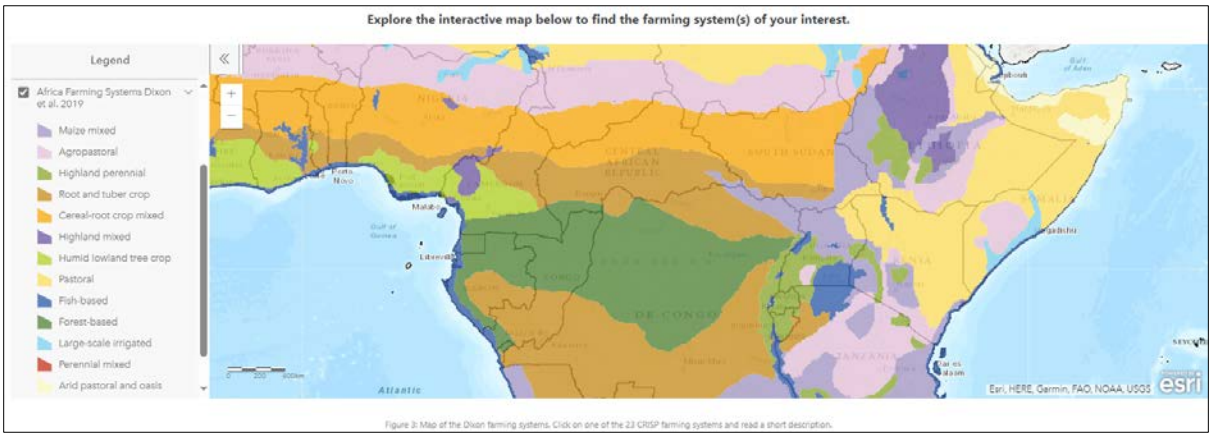


Figure 6. Map of the Dixon farming systems. Expand the layer of interest in the left-hand panel to see the legend.

- Clicking on the map on one of the 23 farming systems in the CRISP knowledge base a short description will appear. You might read through to understand what the agrifood system entails.

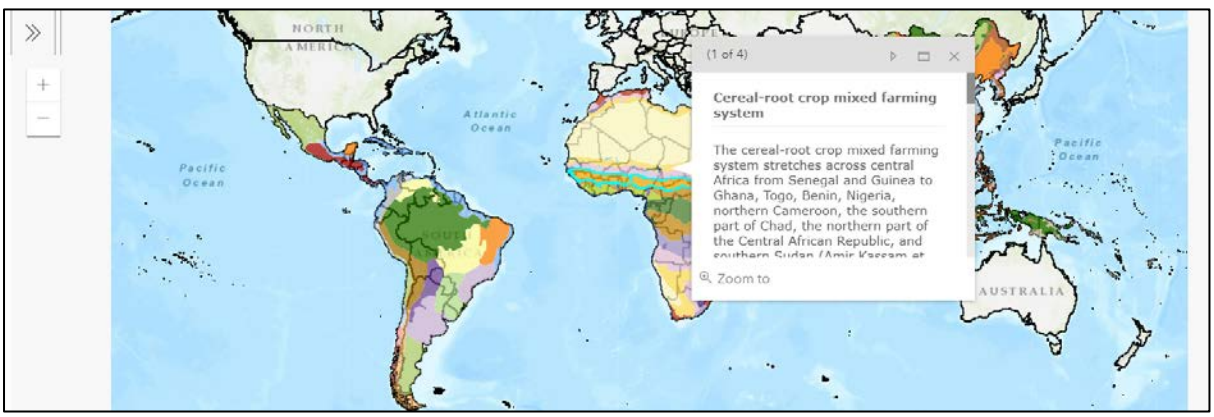


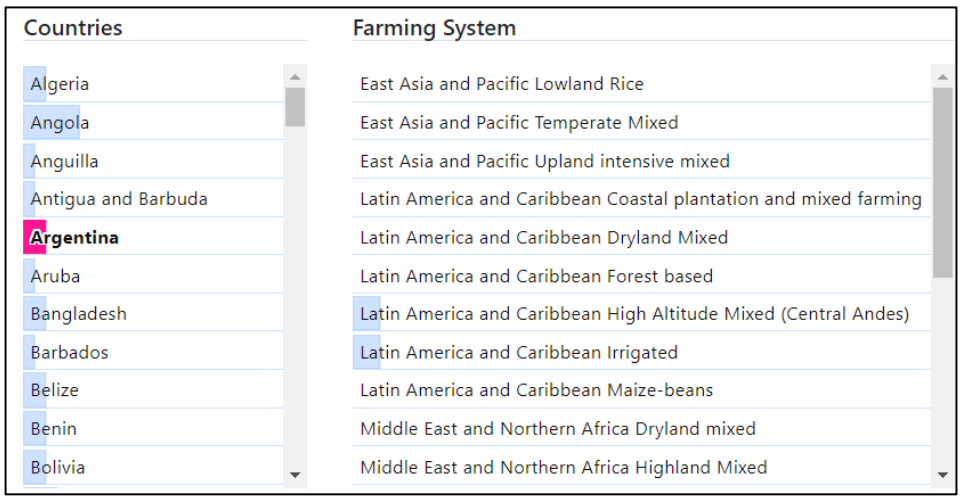
Figure 7. Map of the Dixon farming systems. Click on one of the 23 CRISP farming systems and read a short description.

Step 3: Context Selection

Let us now take you through the practical bit on how to interact with the tool. To get started, click on the **"Context Selection" tab** at the top.

1) **Select the country** where your project is situated or multiple countries for which you are interested to explore a climate impact chain. Scroll down to see all the countries. After you click, the selected country/ies will highlight in a 'magenta-red' colour. Notice that as soon as you select a country/ies, only those farming systems associated with the selected country will be highlighted in blue in the list on the right. In the example below, we have selected Argentina and two relevant farming systems (Latin America and Caribbean High Altitude Mixed (central Andes) and Latin America and Caribbean Irrigated) become available for further exploration.

2) Proceed to scroll down the farming systems and **select one farming system** you are interested to explore among the ones that appear highlighted in blue {the concept of farming system is explained in section 3 iii}. Please note that you can only select one farming system at a time and it will also then be highlighted in 'magenta-red' colour.



The Interactive Map

Just like the basics page, notice that the context selection page has a map.
If you zoom in into a country of choice, the associated farming systems will pop out with a description (see example below). The map will not allow you to select a farming system, but it is rather a support to help you to identify, within a given geography, the one that might be most relevant to your project location.

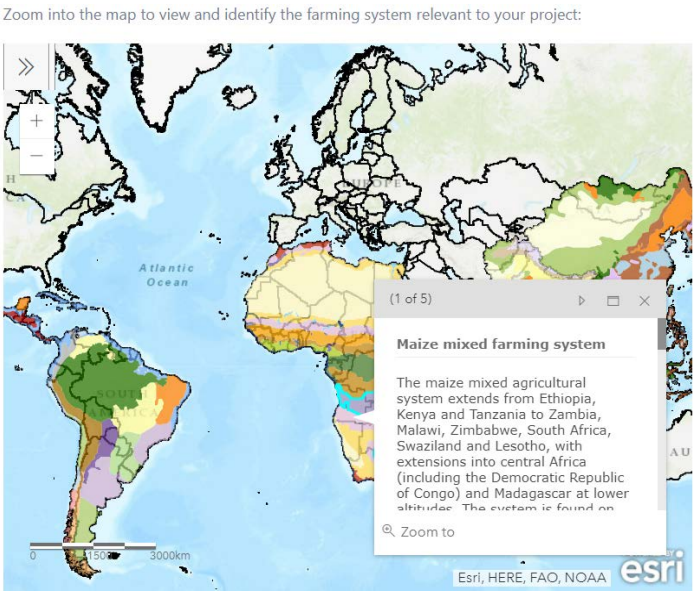
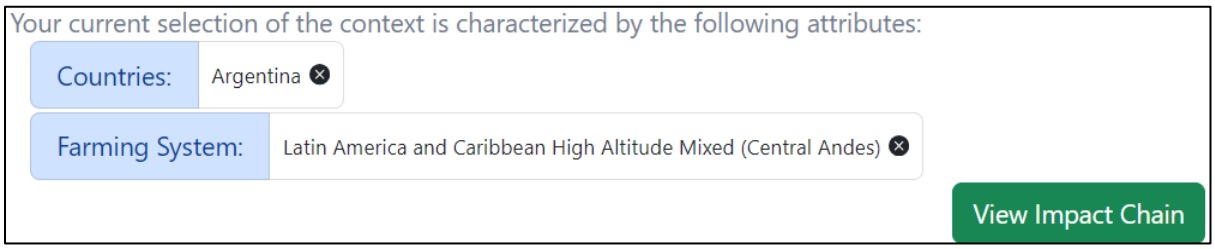


Figure 8. Interactive map to view and identify the farming system relevant to your project

- After selecting the country and farming system, **click on "View impact chain"**



This will bring you to the next section, where you will be able to generate and tailor your specific impact chain.

By following the instructions, you will be guided through the following overall sequential process to **identify and select** the relevant factors that will build your context-specific impact chain:

(1) **Determine the hazards** - Which climate-related hazards are occurring in the Agri-Food system of concern?

2) **Examine the potential climate impacts** - Which are the major climate impacts affecting the Agri-Food system of your concern?

(3) **Determine the vulnerability of the agri-food system** - What are the main sources of vulnerability within the agri-food system? Which economic, human, institutional factors determine the social capacities to cope with hazards or to adapt to changing conditions in the Agri-Food system and thus, if addressed could potentially decrease negative climate-related impacts?

(4) **Determine exposed elements of the agri-food system** - Which elements of the Agri-Food system are present in places that could be adversely affected by the hazards (e.g areas of land, farmers)?

(5) **Review the potential adaptation options available** to address the vulnerabilities of the Agri-Food system – Which agricultural adaptation options are relevant and suitable to be promoted under the specific climate-risk related context of the specific Agri-Food system of interest?

Step 4: Selection of Factors and Impact Chain Exploration

This section requires you to define the entry point you will adopt to carry out the climate risk screening, or in other words, to **define which is the key question you want to address.**

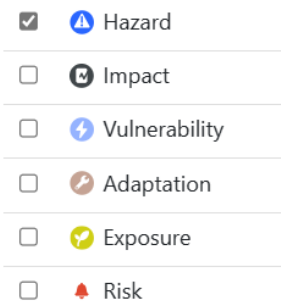
User Case 1: *Which are the main climate-related hazards, impacts, vulnerabilities and potential adaptation options relevant to the farming system in which my agricultural development project will be implemented?".*

Or, the alternative question:

User Case 2: *Are the adaptation options promoted by my project responding to all the main climatic hazards and impacts affecting the specific farming system where they are implemented? Are there additional suitable adaptation options my project is not yet implementing and that would be worth considering?*

Before we proceed, let us show you what each icon represents so that you can easily identify if a factor is a *hazard, an impact, a vulnerability, an adaptation, a risk or exposure*.

This will help you to easily identify the category under which a factor falls by just looking at the icon.



USE CASE 1: Create a Climate Risk Impact Chain

This section provides a guide on how to use the tool to conduct a climate risk screening to **articulate science-based adaptation hypotheses** based on identified hazards, cascading impacts and risk drivers. This use case can be developed if you **start to build your impact chain from the climate hazards.**

Using the tool:

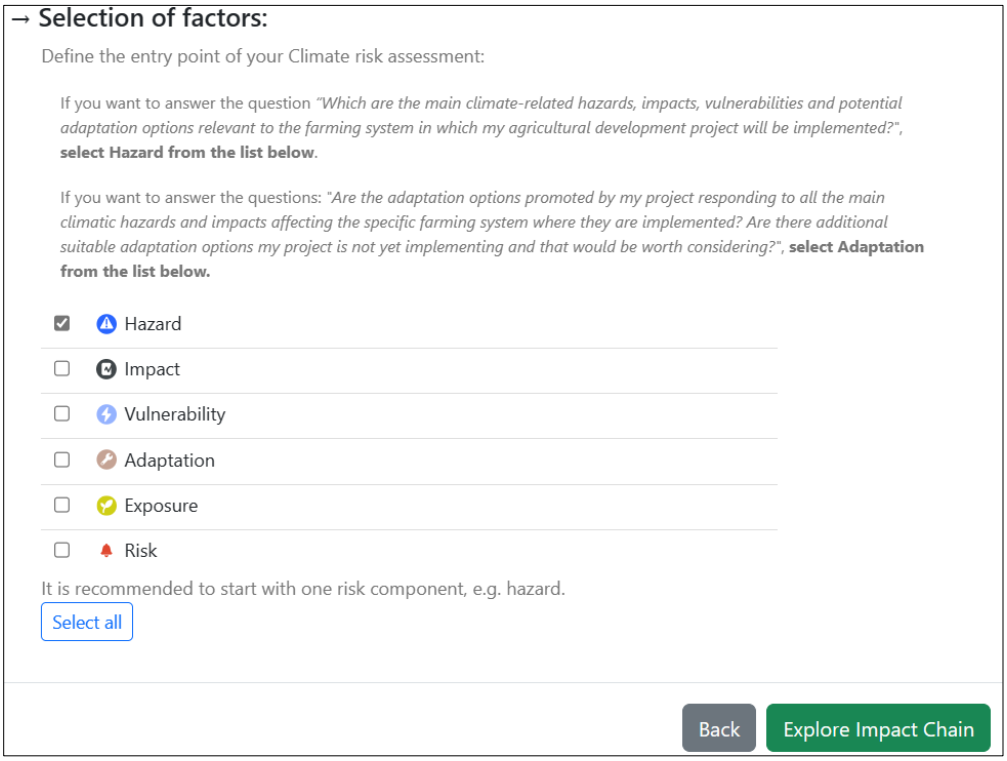


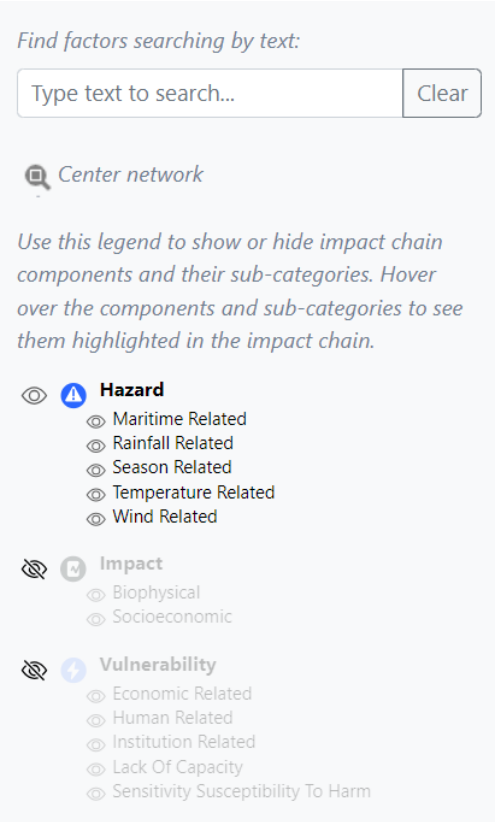
Figure 9. Selection of the entry point factor to carry out the impact chain analysis aiming at performing a climate risk screening to articulate adaptation hypotheses based on identified hazards, cascading impacts and risk drivers (Use case 1).

- When the window pops up after selecting 'View Impact Chain', select **'Hazard'**

and click on "Explore Impact Chain

The next page shows you the climate hazards relevant to that farming system:

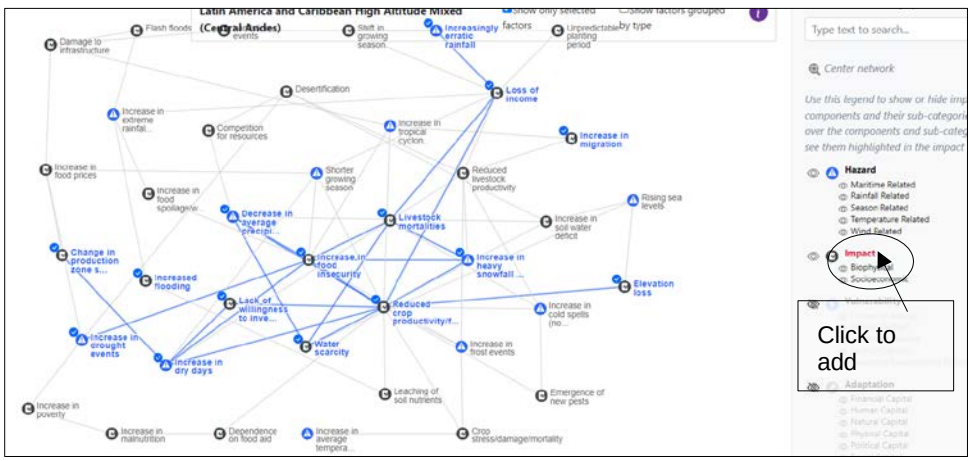
1. **Hover** over each hazard factor to read actual insights. If interested in exploring the hazards per type (e.g Temperature related, wind related, rainfall related etc.) you can click on the hazard types displayed in the right vertical panel (See figure below) to hide/unhide them.



- **Select the hazards that apply to your location/are relevant to your project focus**– you can also do this selection process with the support of local experts. *Remember that the hazards displayed are the ones relevant to the entire geography covered by the farming system you have selected but your project might be implemented in a subregion or at a more local level, where some conditions might be specific.*

- **Select by clicking** on the icon or factor name. A blue tick will indicate a selected factor.

2. On the panel on the right now **click to add the Impacts.**

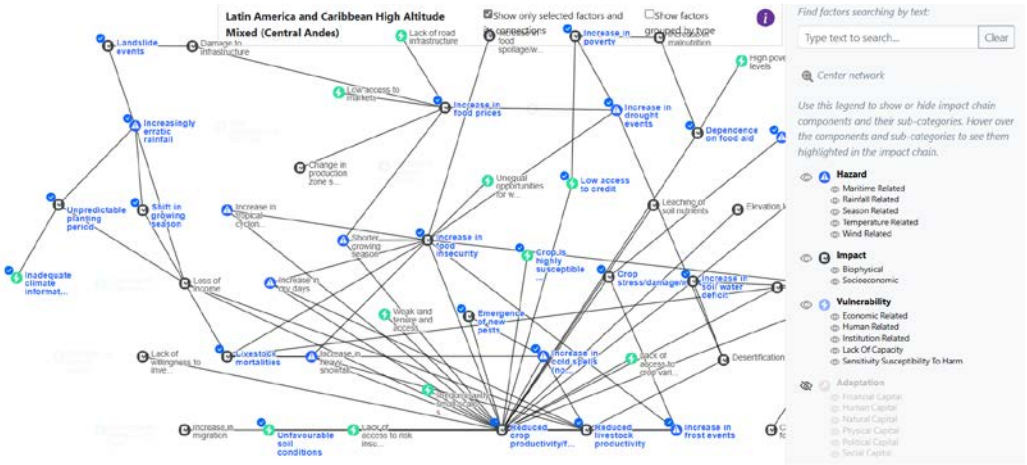


- Once the impacts are displayed, **hover over those connected to the hazards you selected** and **click over the ones that are relevant to your project location.**

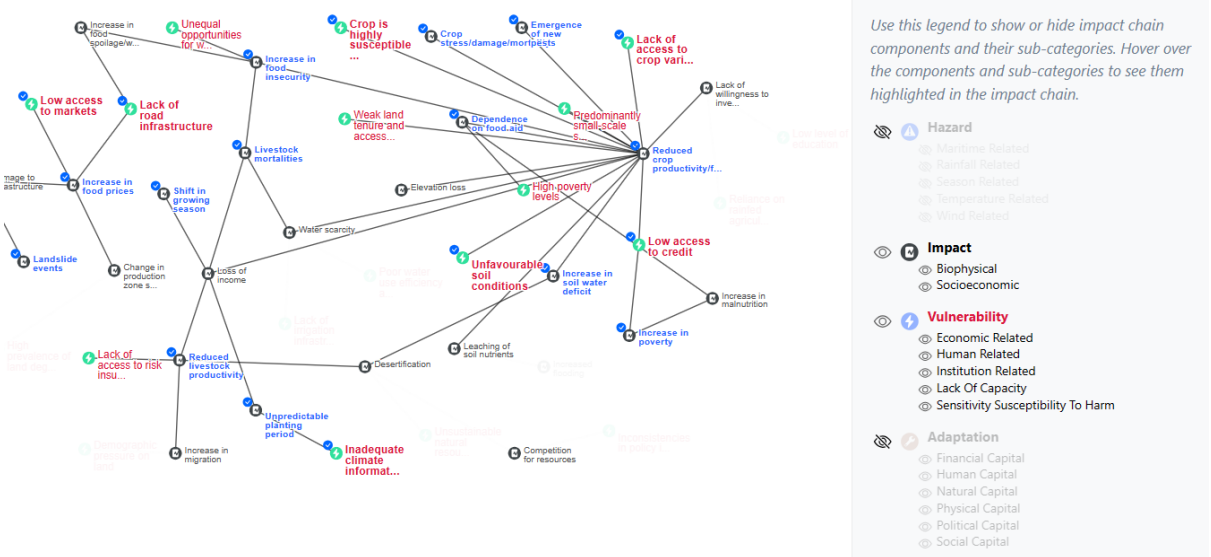
- These selections allow you to make an impact chain specific to your particular project focus/location.

3. Once you have done the selection of the impacts to include in your impact chain, continue navigating down the right vertical panel and **add the Vulnerabilities**. At this stage you see what is driving the risk.

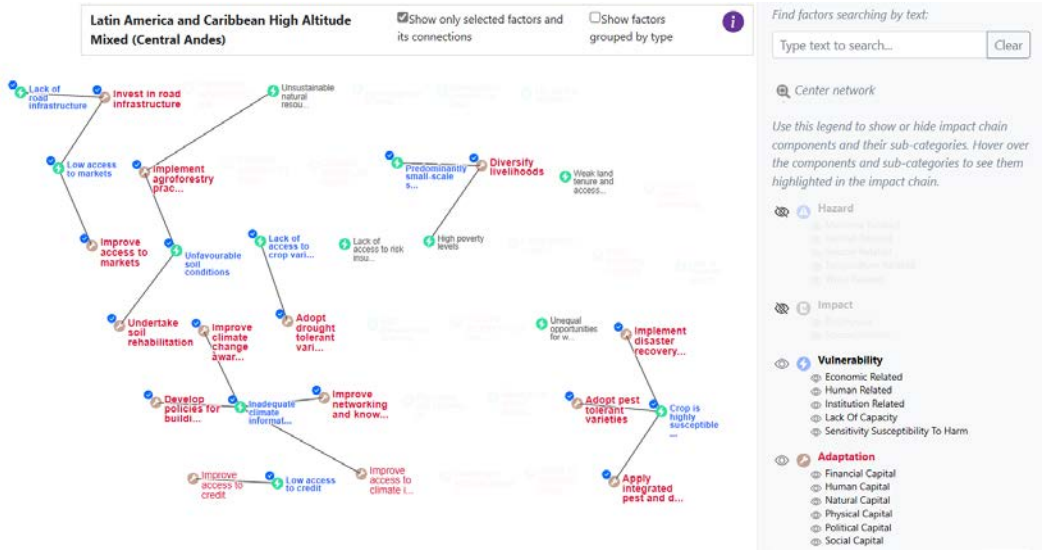
- Once the vulnerabilities are displayed, hover on the ones that are connected to your selected impacts and, among those, select the ones to incorporate in your impact chain analysis.



- To make your visualisation less crowded you might use the option “Show only selected factors” and e.g click on the hazards to hide them - in the right panel- (and only see the display of your selected impacts and vulnerabilities). In the example below, we have hidden hazards and remained with impacts in blue and vulnerabilities in green.



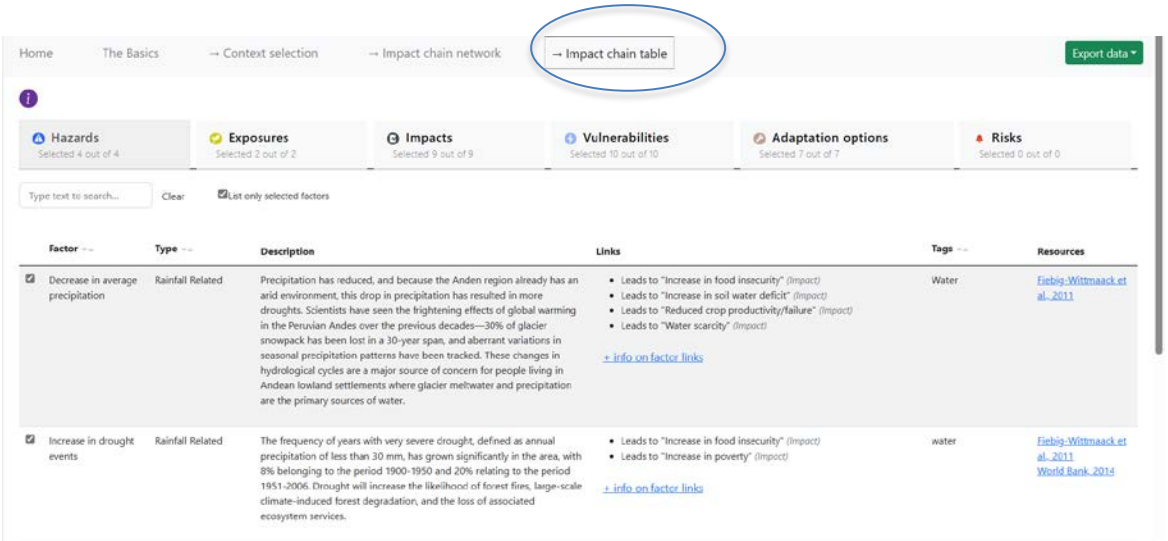
4. Now visualise the **adaptation options** and **select what applies to your case (in this case those in red).** *Please note that **hazards** and **impacts** are hidden to avoid overcrowding. You can unhide anytime.*



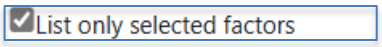
- Hover on the adaptation options that are connected to your selected vulnerabilities and select the ones of your interest.

5. To finalise, click on the right vertical panel to visualise both Exposure and Risk.

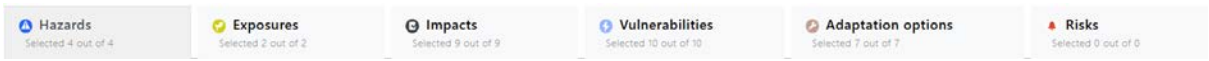
6. In the upper menu, go to the Impact chain table to verify the selection of factors and revise if necessary.



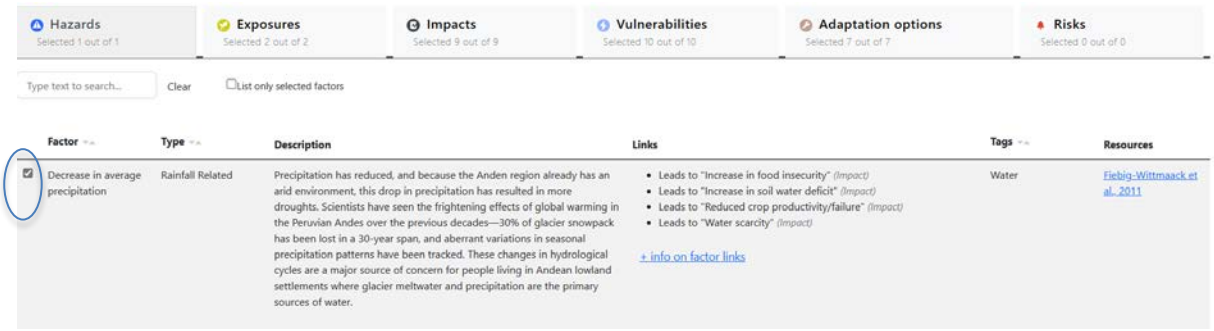
- Click on “list only selected factors” if you want to display only those factors you selected.



- Click any of the impact chain factor icons (hazard, exposure, impacts, vulnerabilities, adaptation options, risks) in the upper horizontal menu to check your selections.



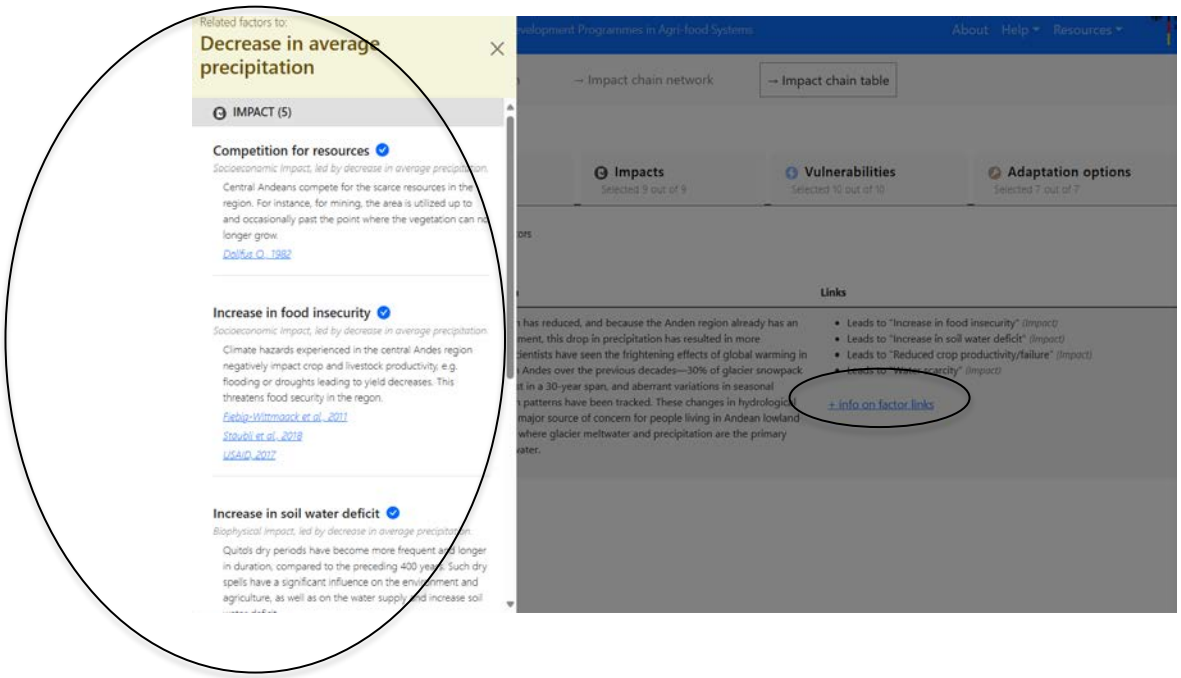
- You can unselect to remove a factor. To unselect, untick the box on the left of each factor and it will be removed from the list.



- You can also search using key words using the search on the top left (***just below the hazard tab***).

- Notice under the link, there is 

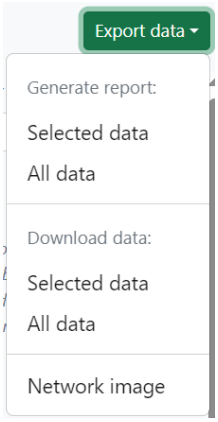
. If you click on each, it will display on the left: the descriptions, connections and sources of information about the relevant factor as the example below



7. As a last step, by clicking on the “Export data box “located in the upper right corner or the screen, you can either:

   a) Generate a report as a .pdf containing the impact chain information with
   - ALL DATA (relevant to the selected Farming system) or with
   - ONLY the SELECTED DATA (the impact chain information tailored to your case).

   b) Download the data as a .json file and use it in another application (You can choose to download ONLY the selected data or all the data - whole farming system information)



The CRISP Report generated is divided into different sections. It starts by providing a description of CRISP, followed by the description and characteristics of the Agri-Food system.

Then, in the first place, it presents the impact chain of the whole farming systems as well as a summary of the Tailored Impact chain (user’s selected factors and relationships) in a tabular and graph view. Lastly it provides a brief guidance on interpretation of the results.

As we have seen in this use case CRISP can facilitate the creation of an initial impact chain that supports the project engagement and planning process with key stakeholders.

Each community is unique and so are the solutions needed to reduce their climate risks. With the CRISP tool, you can create a bespoke and modifiable initial impact chain that will help tailor future discussions, ensuring the right solutions for the individual needs of communities.

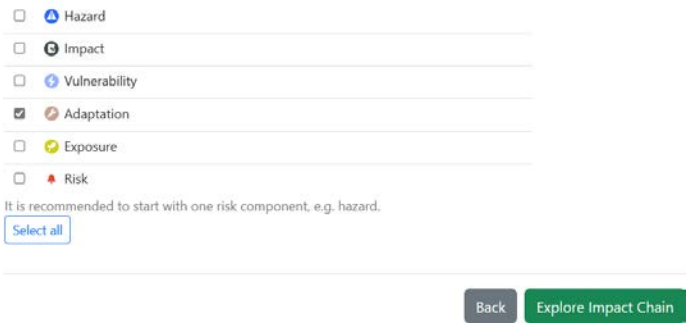
USE CASE 2: Using the CRISP tool to validate the implemented adaptation options and check scenarios for upscaling the interventions.

The CRISP tool is designed to support project managers in understanding climate related risks associated with specific agricultural systems. This section showcases how to use the tool to validate the implemented adaptation options against the rationale of the specific climate related risks and vulnerabilities your project is addressing and check scenarios for

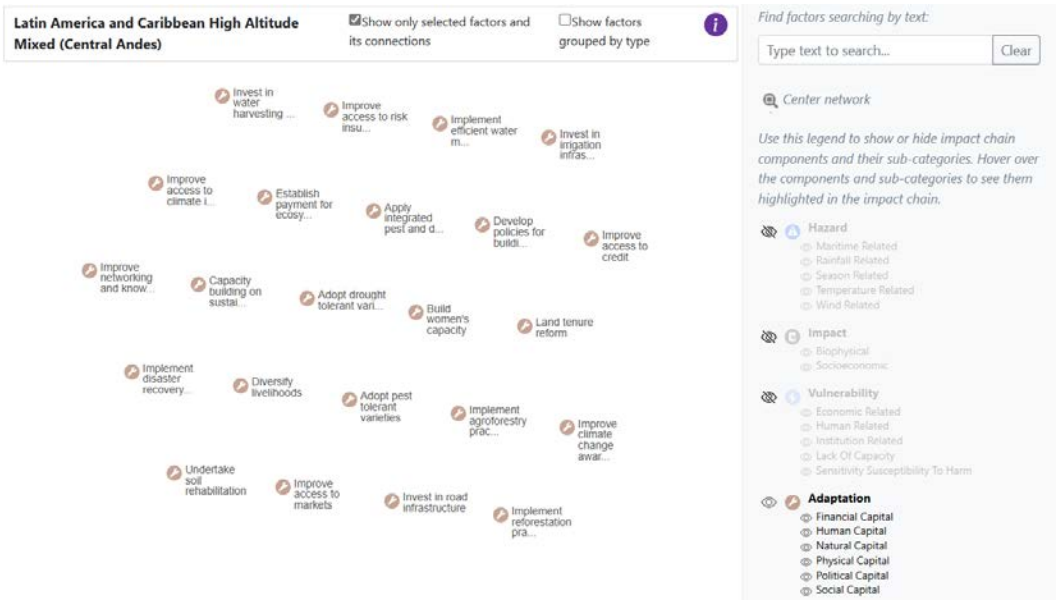
opportunities to incorporate new ones. This use case starts the analysis from the adaptation options.

Using the tool

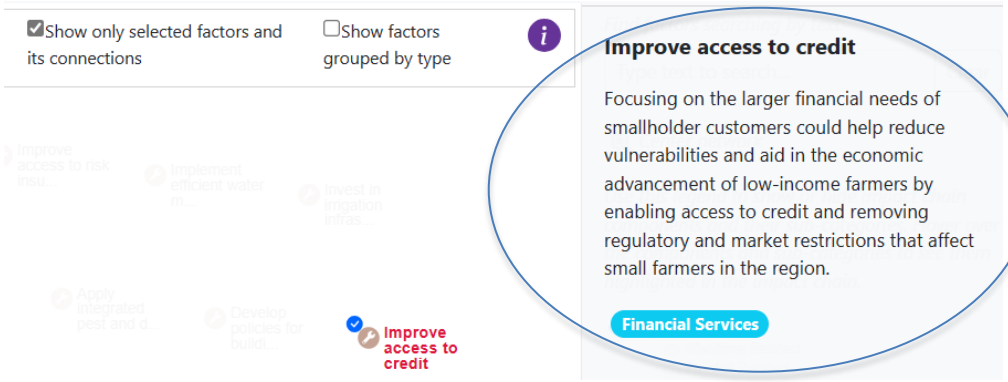
- To begin, select the country or the farming system. If you are not sure of the farming system, go to the map to check as previously shown
- When the window pops up select just “Adaptation” and go on to “Explore Impact Chain”



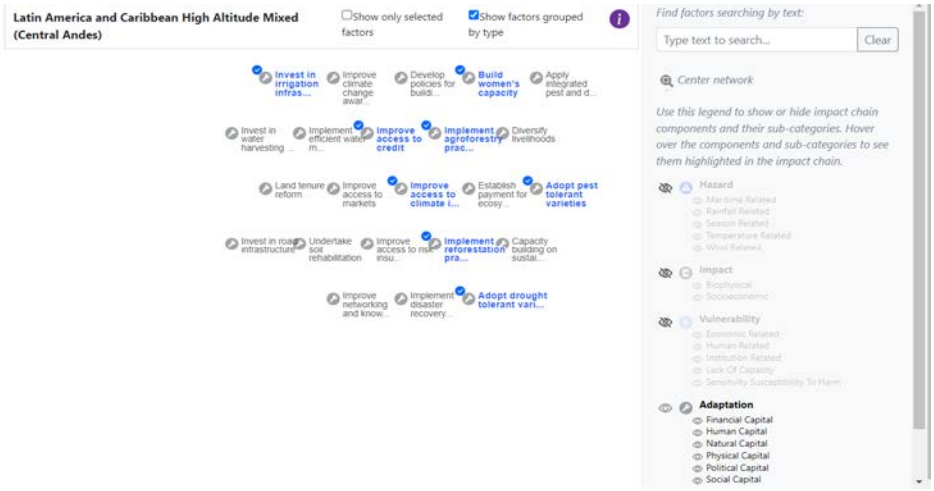
The next page shows you the Adaptation options in that farming system.



1. Hover over each Adaptation option to read actual insights.

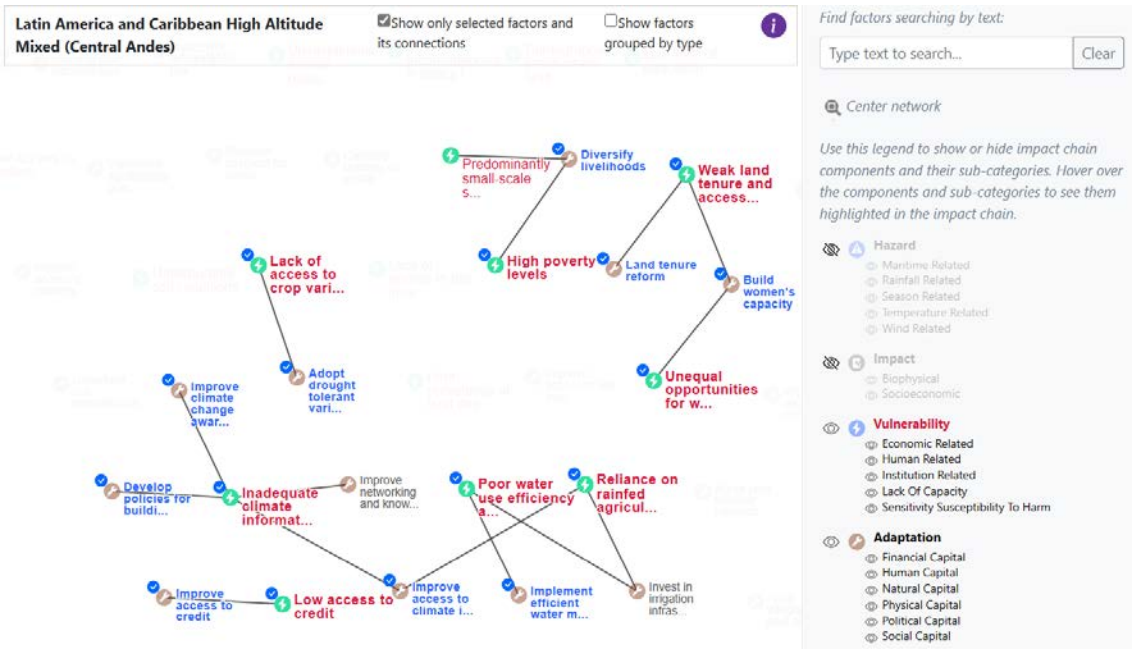


- Then select the Adaptation options that are relevant/apply to your project location. By clicking on a relevant adaptation option, it will highlight in blue.



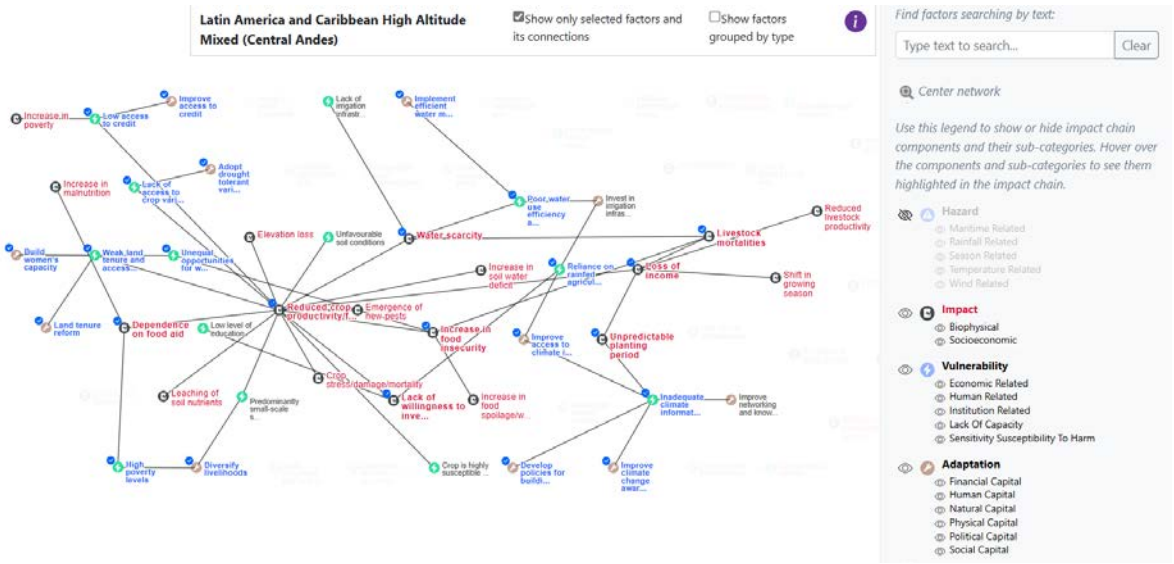
2. Next, navigate upwards on the vertical right panel, and add the vulnerabilities to your impact chain.

- Hover over those vulnerabilities connected to the adaptation options you selected and choose the relevant ones, among the ones linked to your previously selected adaptation options. You can view them based on the subtopics under vulnerabilities e.g *economic related, human related etc.* All you need to do is to hover around the subtopic after you have selected the factors, and they will highlight in red.

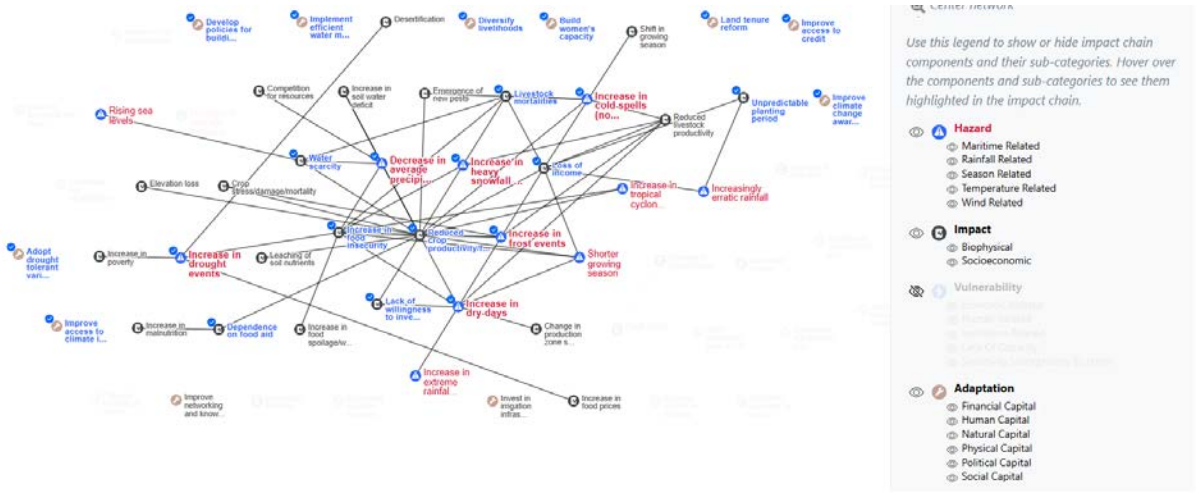


This allows you to make an impact chain specific to a particular case.

3. Once you have done that select the impacts and carry out the same process: check the relevant impacts associated with your previously selected vulnerabilities.



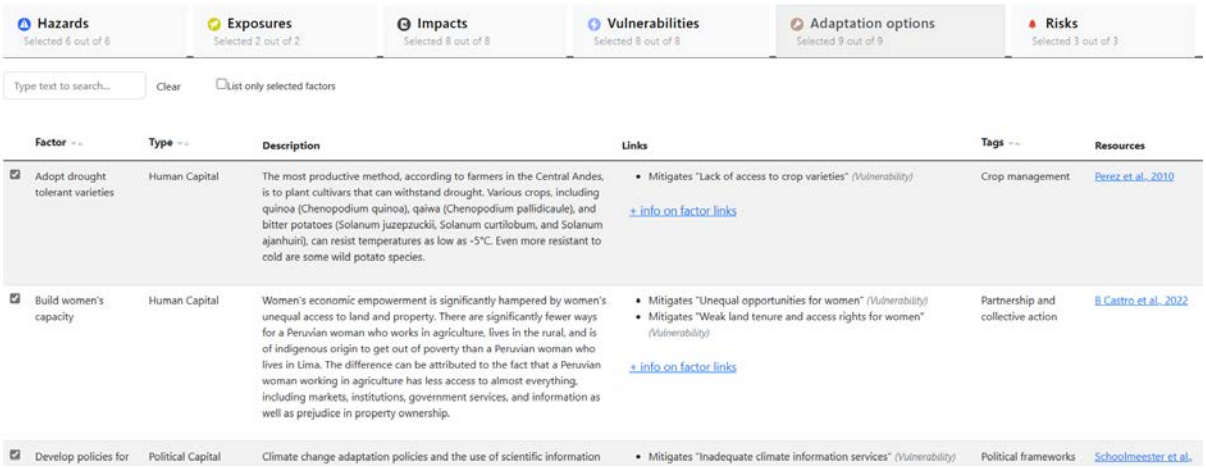
4. Now visualise the climate hazards and select what applies to your case.



5. Now also visualise Exposure and Risk.

6. Go to the Impact chain table. This is a critical stage as it allows you to:

   - Verify the selection of the impact chain factors associated with your adaptation options.
   - Revise if there are specific climate hazards, vulnerabilities and/or impacts relevant for your project areas that are not currently been addressed with your adaptation options.
   - Select them so that you can also identify additional adaptation options that you might incorporate in your intervention.

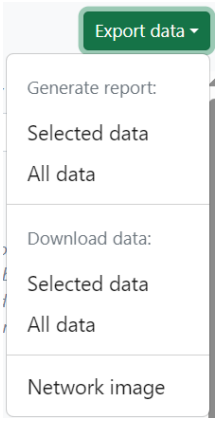


7. As a last step, by clicking on the "Export data" box located in the upper right corner or the screen, you can either:

   - **Generate a report** as a .pdf containing the impact chain information with

   c) ALL DATA (relevant to the selected Farming system) or with

d) ONLY the SELECTED DATA (the impact chain information tailored to your case)



CRISP Report - The report generated is divided into different sections. It starts by providing a description of CRISP, followed by the description and characteristics of the agricultural system. Then, in the first place, it presents the impact chain of the whole farming systems as well as a summary of the selected impact chain factors and relationships in a tabular and impact chain network view. Lastly it provides a brief guidance on interpretation of the results.

- In conclusion, under the Resources section in the upper Menu you can access:
  - the CRISP tool tutorial videos or
  - Additional tools: This section presents some examples of additional science-based tools, approaches and methodologies that can be used, after having done your climate risk screening with CRISP, to plan and/or further strengthen any project aiming to promote promising relevant agricultural practices, technologies, capacities and/or policies that help increase climate resilience and adaptive capacity of communities, value-chains and agri-food systems. The selected resources can be used to carry out i) the situation analysis; ii) the prioritisation and cost benefit analysis of agricultural practices; iii) program design, implementation and scaling or iv) project monitoring, evaluation and learning.