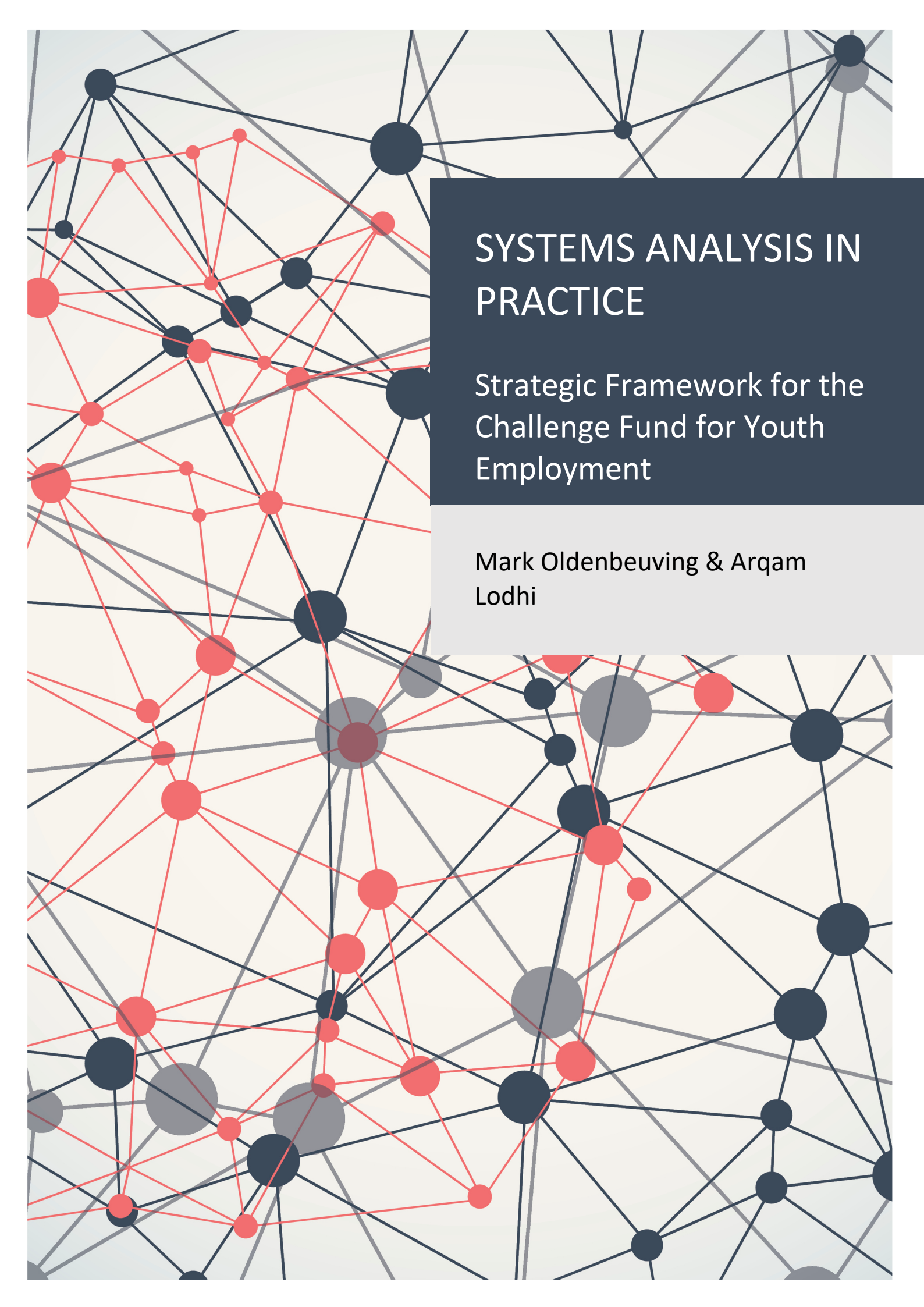




SYSTEMS ANALYSIS IN PRACTICE

Strategic Framework for the
Challenge Fund for Youth
Employment

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Lodhi

Strategic Partnership

This Strategic Framework is the result of a partnership between:



The Challenge Fund for Youth Employment (CFYE) is a 6-year programme managed by Palladium and funded by the Netherlands Ministry of Foreign Affairs, Sustainable Economic Development Department (DDE). It aims to create a prosperous future for 200,000 young women and men in the Middle East, North Africa, Sahel & West Africa, and Horn of Africa regions. Find out more about the Challenge Fund [here](#).



Integrity is an international consultancy and service provider working in challenging and complex environments around the globe. We help our clients in government, international development, and the private sector to succeed in these challenging environments, while building trust and giving voice to local people. Our access and trust at a community level, combined with our global perspectives produce powerful recommendations and deliver positive and sustainable change. Find out more about Integrity [here](#).



The Canopy Lab is a US-based consultancy specialising in the practical application of systems thinking to a wide variety of complex challenges. They work with clients to accelerate team learning, analyse, and make sense of complex systems, evaluate, and advise on the progress of development activities, and provide relevant, actionable research that feeds organisational improvement. Find out more about the Canopy Lab [here](#).

“Celebrate complexity”

“Let’s face it, the universe is messy. It is nonlinear, turbulent, and chaotic. It is dynamic. It spends its time in transient behaviour on its way to somewhere else, not in mathematically neat equilibria. It self-organises and evolves. It creates diversity, not uniformity. That’s what makes the world interesting, that’s what makes it beautiful, and that’s what makes it work.”

Donella Meadows in ‘[Dancing with Systems](#)’

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THE PURPOSE OF THIS STRATEGIC FRAMEWORK

In recent years we've seen increased recognition of the importance of applying a systems lens, or focusing on systems change, to make real progress against some of society's toughest challenges. To change a system, however, you need to first understand the system, and systems analysis is a great way to do that.

Objectives

This strategic framework is the product of a collaboration between the Challenge Fund for Youth Employment, Integrity and Canopy Lab. Before the launch of the Challenge Fund in Tunisia, we applied an experimental approach to systems analysis. At the end of the experiment, we decided to write up what we learned in a strategic framework so that the approach – to be tailored to different contexts – can serve the Challenge Fund in other countries.

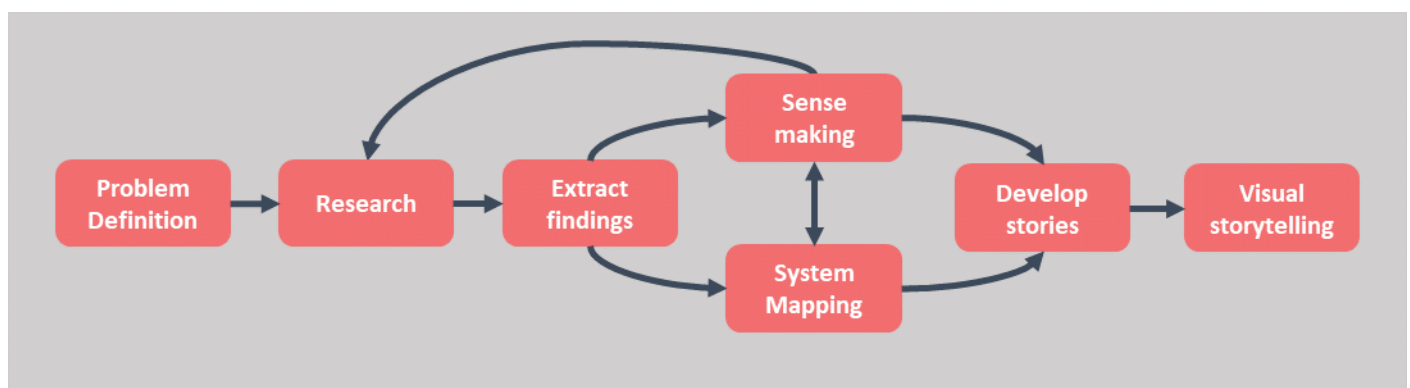
We hope that this strategic framework can help the Challenge Fund develop a shared understanding of what systems analysis is and how it can help unpacking the wicked problem of youth unemployment in new contexts. We believe that this will support the identification of exciting leverage points that will help to improve youth employment opportunities across Africa and the Middle East.

What is this framework?

Although this document begins with exploring core concepts of complexity and systems, it is light on theory and quickly turns into a practical and operational framework for conducting systems analysis in new concepts.

It first explores the importance of defining the right problem focus, before turning to specific research activities and how to synthesise and represent these in a systems map. The below graphic shows this process in a simplified diagram.

Focusing on practitioner level challenges, it is designed to be accessible to stakeholders across the Challenge Fund, as well as beyond.



COMPLEX SYSTEMS AND SYSTEMS ANALYSIS

Youth unemployment across Africa and the Middle East is one of the most complex issues we face today. It is a wicked problem, influenced by lots of interconnected factors, including political, economic, and cultural factors. To try and tackle a wicked problem like this, it is important for us to understand and engage with this complexity.

DEFINITION

*“**Complexity** arises in any system in which many agents interact and adapt to one another and their environments. These interactions and adaptations result in evolutionary processes and often surprising “emergent” behaviors at the macro level. Complexity science attempts to find common mechanisms that lead to complexity in nominally distinct physical, biological, social, and technological systems. “*

(Santa Fe Institute)

Based on this definition of complexity, an emergent outcome such as youth unemployment is the result of the interactions and adaptations of the many agents, or actors, within a given system. This means that to address a wicked problem like this, we first need to identify the actors in the system and then understanding how those actors behave with respect to one another and in response to their environment.

In the context of youth unemployment this means unpacking the underlying causes of the governance and market failures that lead to youth unemployment and describe these through the behaviours of the actors in the system and the relationships between them. This type of mapping is called Actor-based Systems Mapping, and it's the core principle behind the [Actor-based Change Framework](#) developed by Andrew Koleros, Sean Mulkerne, Mark Oldenbeuving and Danielle Stein.

The ABC Framework

Using the ABC Framework, we can unpack specific constraints and enabling factors in the current system and identify entry-points for the Challenge Fund that have the potential to drive system change.

As a first step, the ABC Framework suggests developing an actor-based systems map which “describes the current system dynamics in terms of the development problem to be addressed, the main actors associated with the problem, and the behavioural conditions that define the practices and relationships among them”.

This Strategic Framework provides a practical and detailed application of this first step of the ABC Framework. In doing so, it goes beyond some of the principles and guidance provided in previous documentation about the ABC Framework.

Caveats

There are two important points to make at this point:

1. **Not all problems are complex.** Lots of problems do not require a systems analysis. Depending on the complexity and scale of the problem you want to address, you must think about whether systems analysis is the right way forward.
2. **This is not the only way to map a system.** There are lots of other ways, including Mind Maps, Iceberg Models, Causal Loop Diagrams, Stock and Flow Diagrams. It's worth reading about these methods before deciding which way of analysing complexity is right for the problem you're trying to address.

MAPPING THE SYSTEM



1. DEFINE THE PROBLEM

Properly framing the problem you're trying to address is critical to the success of the systems analysis. A good problem definition will help to focus your attention and make sure you're not spreading the analysis too thin.

Defining the level of focus is an iterative process that will end with a problem statement that you will be working to unpack during the systems analysis.

The problem should not be too general, as this will result in a systems map that is so high-level that it can't be used to develop a strategy.

To help with this, we have found it useful to separate the problem itself from its causes and its consequences. You can do this in a group activity where you map these onto a tree. Causes are mapped onto the roots of the tree and consequences are mapped onto the branches and leaves. The problem, which is what you will work to unpack in the systems analysis, is the stem of the tree.

In the case of the Challenge Fund, it is likely that the problem is centred around youth unemployment. The many consequences of youth unemployment (think about consequences to the economy and social cohesion) should therefore not necessarily be included in the analysis. Because youth unemployment is still a very large problem, it makes sense to narrow it down to one sector of the economy, to go into sufficient depth of analysis. This analysis can then dig into the many causes of youth unemployment (the roots) in this sector.

Lessons Learned

For the systems analysis conducted in Tunisia, we initially focused the problem on the lack of employment opportunities in the agricultural sector. Early on, we realised that this was not necessarily the right focus, considering the lack of growth opportunities in the agricultural sector, and the fact that only a fraction of youth was interested in careers in agriculture.

Because of this, we ended up broadening the scope of the research to other sectors that had more growth opportunities and were of more interest to youth. We settled on ICT and agricultural processing.

These were the right sectors to focus on from a strategic perspective. However, for the systems analysis this was too broad a focus. The MSA had to cover twice as much ground, so was not able to go as deep into sectoral issues as we would have liked. Furthermore, having to look at similarities and difference in these sectors forced the PEA to broaden out to national issues, which was very relevant, but turned out to not be focused enough.

2. GATHER INFORMATION

To unpack a complex problem, you need information and lots of it. You also need a way to make sense of all this information. This section will discuss the first part: collecting the information. It will show how to integrate different types of research so that the results generate insights and identify entry-points to catalyse system level change.

A mix of research methods

What research you need to conduct depends on the type and scale of the problem you're trying to address. Some problems lend themselves to qualitative research, others more to quantitative research. To understand most problems, however, you need a mix of different research methodologies.

Because the Challenge Fund focuses on addressing the complex problem of youth unemployment, several types of research are recommended:

- **Market Systems Analysis (MSA)** unpacks relevant supply and demand constraints to youth employment
- **Political Economy Analysis (PEA)** can unpack the formal and informal institutions that govern the job market.
- To gain a strong understanding of the local context from the perspective of youth, **Community-led Research (CLR)** provides rich insights from young people directly.

Depending on the problem and the contexts, it may be appropriate to consider further types of research. This can include conflict analysis, gender and social inclusion analysis and environmental impacts, among others.

The following three sections will provide a brief introduction of the recommended research approaches and methodologies.

Value of in-person interviews

Because of the Covid-19 pandemic, it was not possible to conduct face-to-face key informant interviews for the systems analysis in Tunisia. While we were still able to collect a lot of information, we would have been able to discuss more sensitive topics in in-person interviews, and likely been able to interview more respondents.

Dedicated Team

When starting systems analysis, it's important to understand who will be involved. Whether you're planning for an internal or a highly participatory effort, a small core team is required to lead the day-to-day work and manage the planning and implementation of research and the synthesis of the information.

In terms of who should be involved, we have some broad recommendations:

- The team should have a **strong and wide network in-country** so that you're able to quickly access a diverse set of stakeholder views.
- There should be **multiple in-country researchers** who can conduct in-person interviews at the same time, to ease diarising challenges.
- Those who will **use the research should in some way be part of the research**. This will add great value to both the research as the uptake of the research.

2.1 Market Systems Analysis

A market systems analysis (MSA) helps to understand how a particular market functions and explores the causes of any under-performance. In the case of youth unemployment, MSA assesses the supply and demand of labour.



Contributing to the systems analysis, it is important to focus the MSA on actors and their relationships. This is not uncommon in MSAs, as they are often represented using value chains. Value chains show the way **goods and services** flow between different actors (like a transporter providing transportation services for a factory) and the associated **financial** flow that goes the other way (payment from the factory to the transporter).

However, to really unpack the functioning of a particular market you need to look deeper, and **value network mapping** is a particularly useful approach. It identifies other types of flows that may be less obvious, such as **information**, regulatory **oversight**, and skilled and unskilled **labour**. Other relevant flows can also be added, as required.

Methodology

MSA combines primary qualitative data collection with secondary information and quantitative data.

Secondary data collection should include any relevant country-focused economic analyses conducted by development programmes, donor agencies,

government and academic institutions, and private sector consultancies. Because market systems perspectives are still relatively uncommon in economic development programmes, it is likely that sources reviewed in this analysis will be restricted to conventional micro-economic analysis of behaviours within market systems. As such, the research team should consider the risk that the analysis of secondary sources may have limited utility in terms of findings. The desk review should, however, be useful to identify evidence gaps, promising areas for research and potentially surfacing key informants that can inform the primary data collection effort.

Primary data collection: To complement the secondary data collection, a significant number of semi-structured qualitative interviews are recommended within targeted sectors. Respondents could include firm managers, association representatives, business consultancies and representatives of key government agencies. As a guide, we recommend you speak to at least 20 informants, but potentially more if time permits. To ensure the sample is sufficiently broad, a sketch map of the market system against possible key informants is useful. This will help identify gaps.

Top Tip

There will likely be significant overlaps between the different research components. For example, you will likely want to speak to some of the same actors. In these cases, make sure to plan these interviews and develop interview guides together.

2.2 Political Economy Analysis

Political Economy Analysis (PEA) focuses on power – how it is generated, maintained, and used to shape systems and processes. PEA seeks to map the influence of power on the actions of and relationships between different actors. To unpack this, PEA assess three building blocks: **structural features**, **institutions** and **actors** and the interplay between these.



Structural features: The structural underpinnings of the political economy at the macro and sector level. These foundational factors include geography, natural environment, demographics and histories of political competition, gender norms and class formation.

Institutions: Institutions are perhaps best thought about as the way things are done or the rules of the game. They can be formal (written or codified) or informal and are frequently a mix of both.

Actors: People and organisations act within the constraints of the context's structural features and their influence on the types of behaviours incentivised by the institutions.

Methodology

PEA is a primarily qualitative process to establish a picture of relations of power and contest as they shape the sector and problems within it. Feeding into the wider systems mapping, PEA is undertaken in tandem with MSA and CLR, paying particular attention to crossovers and value-addition across the strands.

Secondary data: PEA should begin with a light-touch national-level (macro) study of the country in question and, where sectors are known from the outset, research into the dynamics within the sector. In some situations, there is recent writing on PEA at this level and secondary research can be sense-checked using a few key informant interviews (KIIs). Where there is less recent writing, the team should expand the

number of interviews to generate adequate data on the political economy of the country and sector(s).

Primary data collection: KIIs involve semi-structured conversations with representatives from stakeholder groups across the labour market system as well as from within government agencies, broader non-state actor organisations, networks, and associations from across the private sector and organised civil society spaces, analysts, and academics; government stakeholders linked to relevant ministries; private sector associations; educational institutions and vocational training providers. The list can be expanded over time using snowballing techniques, where one informant recommends other relevant stakeholders.

Teams can build triangulation into this step by establishing a spread of actors within each stakeholder group. Remember to start quickly (with whoever says yes first); focus on getting government stakeholder perspectives; and 'find new friends'. Avoid only interviewing people who share your perspective or the perspective of those with power.

Top Tip

It is often easier to get access to and more revealing to talk to civil servants rather than elected officials. Civil servants tend to have a better repository of institutional memory.

2.3 Community-Led Research

Community-led research (CLR) is an innovative approach, in which the distinction between researchers and research participants is blurred, with the aim of minimising power imbalances. CLR involves conducting research in partnership with a community – the same community programming seeks to impact.



CLR provides rich qualitative data, which is ideally integrated with other research findings to validate, challenge, or otherwise enhance these by bringing to life youth perceptions. CLR data serves multiple purposes in a research project, including identifying further areas of research, illustrating issues, and providing real-life stories.

Methodology

We've found it useful to partner with **youth associations** who can provide youth researchers to carry out data collection. The number of associations, their areas of focus and geographic spread will depend on the nature of the problem identified.

Step 1: Design and pilot **research tools**, for example, KII questionnaires, FGD guides and interactive session plans. PEA and MSA research strands should review these tools to ensure integration across strands, as well as coverage of all project research questions.

Step 2: Conduct **researcher training sessions** with the selected community researchers. Sessions should cover one to two days to ensure youth clearly understand the project and research aims and priorities, as well as receive an overview of qualitative research principles, ethics and safeguarding and sufficient practical guidance and exercises to feel confident carrying out research. During these sessions, teams should share final data collection tools and supporting materials with the youth researchers, either in hard copy or digitally.

Step 3: The youth researchers then go into their communities and conduct **primary data collection** for a determined period, for example two weeks, and with a determined number of informants. Respondents could include neighbours, colleagues, friends, or family. The semi-structured interview methodology provides a set of questions but also allows creativity to identify other avenues of discussion that may be relevant to the project.

Step 6: The Research Lead and the youth researchers come together after the data collection and conduct a **sense-making and debriefing workshop** to identify emerging findings, the limits of the methodology, the researchers' experiences, and trends they identified as well as case studies they thought were most interesting. During these sessions, the youth researchers are shown a beta version of the systems map to comment on, validate or challenge findings.

Step 7: CLR data often requires **translation and transcription** before proceeding to the **analysis**. This may be done in Excel or using another qualitative data coding system, for example NVivo. While the dataset may not be representative, CLR findings can be used to strengthen other research findings, to develop case studies, youth personas or bring the research to life by providing rich quotes and youth perceptions.

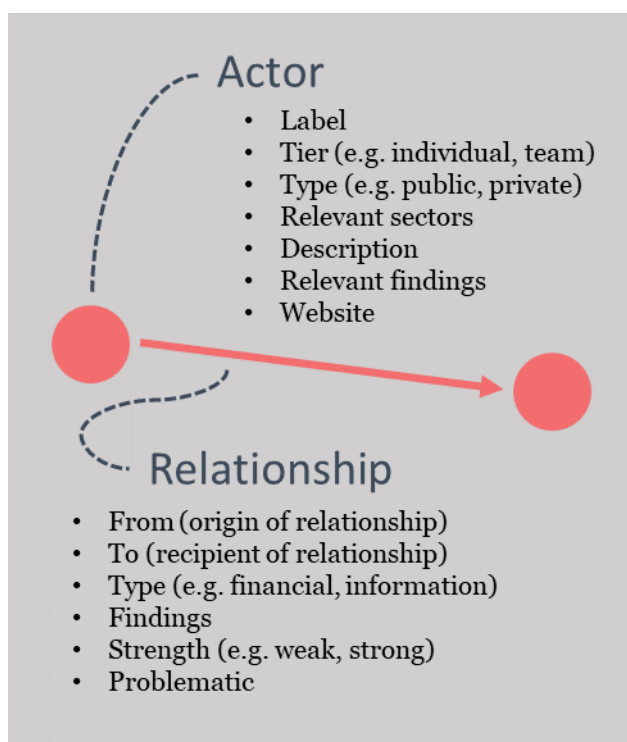
Top Tips

- Limit the number of questions that researchers should ask. This focuses the conversations and ensures that things don't get left out later.
- Consider including Focus Group Discussions. These are a great way to explore topics more in-depth and allow participants to engage with emerging systems analysis findings.
- Make sure to engage with the youth associations during and after the call. They're a great resource and can act as a sounding board.

3. SYNTHESISE INFORMATION

As the research strands start producing findings, it can feel like you've got a huge amount of data but no way to organise it. This is where systems mapping comes in, as a useful tool to synthesise lots of information. We recommend using software to support this synthesis, but nothing can substitute spending significant time together making sense of the information.

Because we're mapping the system as a network of actors and relationships, this means that all information coming through the different research strands should be coded accordingly. Below you can see an indicative list of information required for each actor and relationship.



Developing the list of actors

If you have clear ideas about who the relevant actors are at the start, you can start with this list and tag findings accordingly. This process, where you start with a predefined list of actors and tag findings to them as you go, is called deductive coding.

In most circumstances, however we don't know exactly which actors are important to include in the analysis, and at which level. In these cases, we must use inductive coding, which means that we will identify actors as the findings come in.

If you're conducting the systems analysis with a team, this puts a big emphasis on knowledge management

and communication. When one researcher tags findings about bureaucrats to 'civil service' and another researcher tags similar findings to 'government', it's easy to get lost in the wealth of information. Everyone on the team should keep an eye on this, but it's a good idea to make one person responsible for the upkeep of the final list of actors.

Identifying relationships

Relationships are defined as interactions between different sets of actors, with a focus on interactions that drive behaviour. These interactions come in many different forms. Although certainly not exhaustive, we recommend using the following six as a starting point:

- | | |
|--------------------|-------------|
| - Goods or service | - Labour |
| - Financial | - Oversight |
| - Information | - Power |

Most of these relationships are self-explanatory. A transaction, for example, can be represented as a two-way relationship of selling a product (goods) in return for payment (financial). Other relationships are less tangible, like oversight or power, but these are equally important in understanding what drives behaviour between different actors.

Apples and oranges

In our MSA, relationships are defined as value flows, and are therefore visible or at least measurable. You can see goods being provided, and can measure financial flows, even if electronic. When we include findings from the PEA and CLR, the relationships become less tangible. Relationships of power are an example of this. We recommend flexibility in your inclusion of different types of relationships (because apples and oranges go well together in a fruit salad!) so long as you clearly mark them appropriately.

Knowledge Management

To properly catalogue all the findings from the research, it's important to set up a dedicated database for this. Whether this is a simple table in Excel or Google Sheets, or a dedicated relational database (we've used a customised database built in Podio) depends on the scale of the research. Either way, it needs to capture data sources (1) that contain findings (2) about actors (3) and relationships (4).

In the diagram on the previous page, you can see an indicative list of information needed for each actor and relationship. For findings we recommend identifying its source, the level of credibility, and how it relates to actors or relationships in the actor-based systems map.

Set up this way, it allows you to then track back all the different findings you've coded about a particular actor or relationships to their original sources. This is invaluable when starting to process of sensemaking.

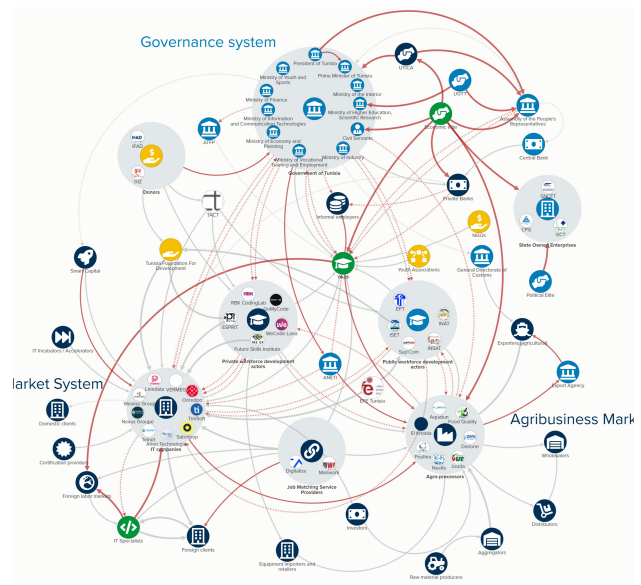
Team sense making

For initial sense making during the data collection and analysis phases, it's easiest to use a whiteboard and sticky notes if the team can come together in person, or an online collaboration software like Miro if the team works remotely. Both approaches make it easy to move elements around and update the map while you're making sense of it.

Organising the data in the form of a systems map early on will help with synthesis of findings, early sensemaking, as well as identifying areas of the map that you don't have enough information on, or specific areas that you want to focus more on.

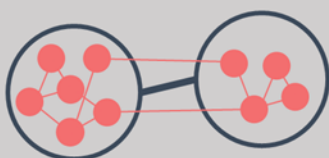
Building the final map

Once the map is starting to take shape, it makes sense to move it over to Kumu, a specialised network visualisation tool. Kumu can generate relationship maps that are as beautiful as they are powerful.



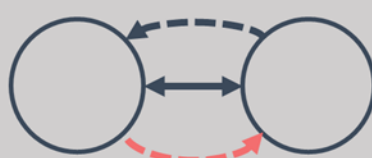
Kumu's import feature makes it possible to create a systems map based on the data from the relational database, existing data, without recreating every bit of it by hand. To get the most out of Kumu, it's worth spending time in their advanced editor, which allows you to write CSS-inspired code to control a wide variety of powerful visualisation features. This can be quite a laborious task; the above map of the Tunisia systems map contained more than 300 lines of code.

Important considerations during systems mapping



Granularity

When defining which actors to represent you will have to decide what level you want to represent them at. For example, a Minister (individual) is part of a Ministry (organisation) which in turn is part of a Government. What works for your team depends on the problem and the context.



Relationships

There are many ways to represent information in the connections between elements in a map. We recommend annotating each connection, using dotted lines for weak connections, and red lines for problematic connections (because sometimes strong connections can be problematic)

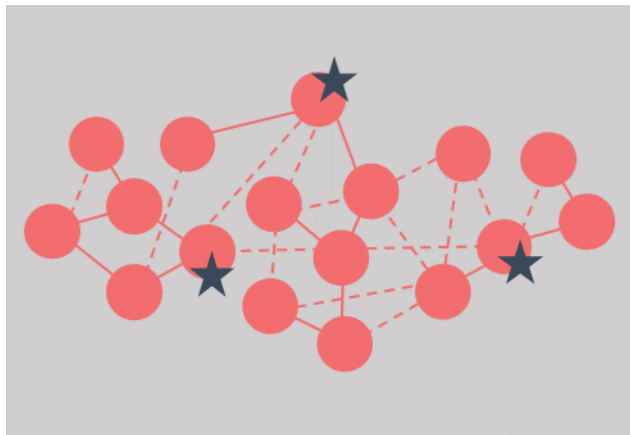


Focus

When you have lots of actors and connections, it can be hard to see the wood from the trees. It can help to focus on a number of actors and relationships, which reduces the complexity of the system map and allows you to tell a story about just the highlighted elements and connections.

4. FIND LEVERAGE POINTS

The diagnostic phase, in which you rigorously mapped the system of actors and relationships, prepared you to find leverage in this system. These are the points that have the potential to create positive and lasting change within the system.



Finding points for leverage is more of an art than an exact science. The diagnostic phase does not end with a set of specified entry points (alas!), but it does set you up to find entry points. The [Systems Practice Workbook](#) by Omidyar helpfully provides the following suggestions for finding leverage points:

- Where is the system **frozen**? Look for places where system behaviour is deeply entrenched and unlikely to change soon.
- Where is there **pent-up energy** for change? Look for places where actors are already disrupting the status quo or trying to reorganise and cause new patterns to emerge.
- Where are places that seem like **bright spots**? Look for places where positive change is happening already.
- Where are you seeing **ripple effects**? Look for strong factors and dynamics which have the potential to affect many other factors or dynamics downstream.

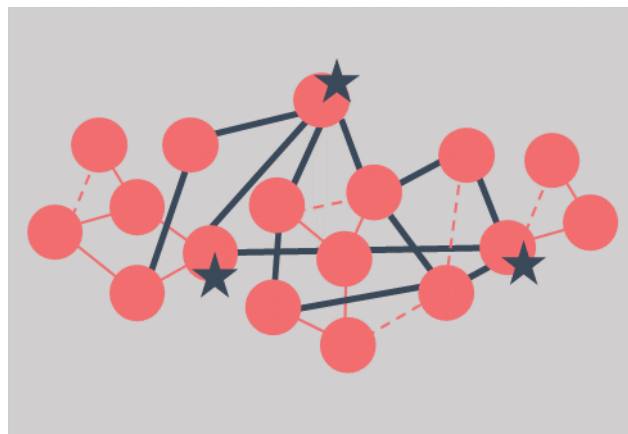
Using these criteria, you can find those places where change is most likely. These are also the places where the Challenge Fund can invest in grantees that are most likely to have a wider impact on the system.

Developing Change Pathways

Once leverage points are defined, you can move on to developing change hypotheses. We recommend using the [ABC Framework](#) (Koleros et al, 2020) for this. Change hypotheses occur at two levels: theories of action at the grantee level, and theories of change at the systems level.

Each investment (grantee funding in the case of the Challenge Fund) should have its own **theory of action**. This describes the expected pathway from the intervention to the changes in behaviour for each actor, as well as the assumptions at each step of the pathway. A theory of action contains the following levels: what goods or services are provided, which actors are reached, what their response is in terms of changing behavioural conditions, and ultimately what changes in behaviour are intended to occur. Assumptions should be developed between these levels.

Once theories of action are developed for each actor group that the Challenge Fund intends to target, you can use the actor-based systems map to draw the **theory of change**, which shows the possible pathways by which the actor-level behavioural changes (activated in the theories of action) might cascade through the system and contribute to macro-level changes to address the development problem.



LIMITATIONS

We believe there is great value in conducting a systems analysis. So much so, in fact, that we wrote this strategic framework about it. We do understand though that this type of analysis has several challenges and limitations that you should take into consideration when deciding whether this approach is right for your team.

Complex adaptive systems are complex. Despite being a time and resource intensive exercise, any systems analysis will fall short of a full characterisation of the system's dynamics, as the actual system is too information-intensive to be completely represented. We believe that conducting systems analysis will include the right information to guide the CFYE in the selection of high-potential partners whose improved performance could create a fundamental positive change in the systems' behaviour.

Complex adaptive systems adapt. Systems analysis produces a rich picture and a set of hypotheses that will enable the Challenge Fund to begin engaging in a country. However, this picture will change, partly because of the activities delivered by the Challenge Fund. This means that you will need to keep updating the analysis and strengthen your understanding of the system and how it changes over time, as well as its differential impact on issues, groups, and spaces.

Ensuring balance is challenging. It is difficult to assess when you have reached a thorough and balanced picture of a system. You should seek to include multiple stakeholders' views and perspectives to ensure a rounded picture of the system's dynamics. However, it can be difficult to ensure a completely balanced assessment of the system. Using different research approaches (like a combination of PEA, MSA and CLR) can help ensure that a broad range of voices feed into your analysis and may reduce the bias present in a solely expert-led systems map.

Including youth in research has known and unknown challenges. It can result in potential limitations, such as a lack of understanding of the research aims, which can impact the research process or provide poor quality data. Youth researchers are embedded in their communities and as such, the data collected will be subjective and may have inherent prior biases. You should consider this when incorporating findings and use them as a window into understanding the perceptions of youth researchers and their communities' perspectives.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.