Methodological Guidelines for WP4

Participatory appraisal of vulnerability and performance of Value Chains T4.3 – T4.6

Version 8.0 (28th March 2022)

This version adds guidance to the Section 3.6 on assemblage to ensure that we consider the range of related VCs in the MRLs/ensure we pay attention to wider RD in our analysis

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List of acronyms

CAF – Conceptual and Analytical Framework (D4.2)

DoW – Description of Work

EU – European Union

FA – Functional Analysis

FTE – Full-time equivalent

ICF – Informed Consent Form

LUS – Land Use System

MAP – Multi-Actor Platform

MRL – Mountain Reference Landscape

MRR – Mountain Reference Region

MS – Member State

SES – Socio-Ecological Systems

VC – Value Chain

VCA – Value Chain Analysis

WPL – Work Package Leader

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1. Overview

The purpose of this document is to provide guidelines for the implementation of the methodological approach required for the delivery of WP4 in the H2020 MOVING project. The aim of WP4 is to analyse the current *diversity* of VCs (as part of socio-ecological assemblages) in Europe to assess their potential contribution to the different regions' sustainability and resilience.

An overview of all tasks from T4.3 (starting M12) through to T4.6 (ending M32) is provided in Table 1; a fuller description of each task is provided in section 2 (Overall Methodological Steps). However, this document (version 6.2) only provides detailed guidelines for <u>Stages 1 & 2 of the first task (T4.3)</u>, to allow the further steps to be refined based on the experiences of implementing T4.3 and to allow further discussions with the WPL from WP5, 6 and 7.

Table 1: Overview of Tasks 4.3 to 4.6 (including timescales)

TASK			
4.3 Extended value chain analysis	Stage 1	Desktop review	November 2021- February 2022
	Stage 2	Interviews	January – March 2022
Draft version of template uploaded on VRE to allow initial review and shared learning			31st March 2022
4.4 Participatory workshops		**Participatory workshop**	**April – May 2022**
Final version of combined T4.3 and T4.4 template provided on VRE			**12th June**
4.5 Vulnerability and sustainability assessment		*Participatory workshop*	*September – December 2022*
4.6 Upgrading strategies for the VCs		*Secondary analysis*	*December 2022 – April 2023*

The guidelines have considered the overall conceptual and analytical framework (CAF) for the project (Moretti et al 2021[1]) and provide a pragmatic approach to operationalising the CAF.

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[1] Moretti, A., Brunori, G., Grando, S., Felici, F., Scotti, I., Ievoli, C., Belliggiano, A. (2021) MOVING Conceptual Framework (Draft to EC July 2021)

Each partner is responsible for tailoring the methodological guidelines to the specific aspects of their Value Chain (VC) case(s) and to work with their regional Multi-Actor Platforms (MAPs) to ensure that the process delivers to the overall objective of the MOVING project.

The Description of Work (DoW) calls these activities participatory so we should consider balancing the needs for comparative analysis across the VCs (D4.3) with making the process relevant and useful to the regional MAPs.

The guidelines provide the mandatory common approach across all regional partners to ensure the data collected and analysed is comparative and can provide findings relevant to EU level policy. Partners are encouraged to go beyond the mandatory minimum and develop more quantitative aspects of the CAF if they wish.

Where possible, links to and dependence on other WP tasks are noted. It is strongly recommended that each regional partner considers how any data collected and analysed as part of WP4 can be also used to support analyses for other aspects of the H2020 MOVING project.

When in doubt, the focus of T4.3 is on the specific practices associated with the VC in the MRL. Other data that may be relevant to later tasks in WP4, but also other WPs can be noted at the end of the template.

1.1 Developing the guidance

The methodological drafting began in May 2021, in consultation with WP2 and the CAF (Moretti et al 2021) and the initial thinking was presented at a WP4 drop-in meeting in May 2021.

Feedback from regional partners was used to further develop the presentation shared in the WP4 training meeting on 7th September 2021; and opportunities for further feedback were provided during the Steering Committee meeting on 9th September; and another drop-in meeting on 16th September.

The draft guidance has been shared with the other WP leaders for their comments, particularly regarding how to operationalise the tasks alongside T3.3 and T7.2, given the overlap in timescale and content. This guideline document and associated templates is posted on the VRE (WP4 folder) for easy access: https://data.d4science.net/ksu3.

This version (v6.2), integrates guidance for the stage 2 of the extended value chain analysis (interviews) with earlier guidance, which focussed on the desktop review (stage 1). Comments and reflections received from WPLs and partners in response to earlier versions are integrated to this version of the document.

The updated version of the guidance focused on the participatory workshop have been developed by the CZU team in close cooperation with the WP4 leader (JHI team). Basic ideas about the focus and content of workshop were presented at the Technical Committee meeting on February the 2nd 2022.

Detailed instruction of the guidelines were presented at the Steering Committee Meeting on March 2nd 2022 (version 7.1) and then additional workshop organized on March 11th 2022.

Feedback provided from the partners has been included in this last version of the guidelines (version 7.2) that has been published on March 20th 2022.

Following consultation with the project PI minor adjustments have been made to Section 3.6 to ensure that partners consider how the focal VC connects with other VCs in the context of the MRL towards a wider rural development perspective. This version (8.0) will be shared with partners 28th March 2022.

2. Overall Methodological Steps (T4.3 – T4.6)

- Task 4.3 **Extended value chain analysis** (M12 – M24) focusses on understanding the current performance of the focal VC assemblage – what is happening now.

The approach has been developed as a progressive but iterative process (desktop review then interviews). This will minimise demands on the members of the regional MAPs over the autumn (when engaged in T3.3) and focus the interviews on aspects that cannot be accessed from existing secondary sources.

The aim of the desktop review is to generate an overview of the current performance of the VC in the MRL, its interactions with other VC(s) in the MRL/MRR, and to what extent it is tele-coupled. Using existing desktop material, including descriptive statistics (where available) it will provide a factual basis for understanding the VC performance. The aim of the interviews is to fill in information that were not available via secondary sources but also to explore perceptions and preferences of specific local actors in the MRL that may not be captured in published material.

The guidance provided in the current version of this document (v6.2) provides guidance for the desktop review and interview stages of T4.3

- Task 4.4 **Participatory workshops** (M18 – 24) focuses on validating understanding generated in T4.3 (desktop review and interviews) through a workshop, including understanding differences in perspectives on how the VC assemblage is performing.

The combined output from Tasks 4.3 and 4.4 – Deliverable 4.3 – is due in M24 (August 2022). However, to allow internal review and quality assurance, the final version of the template in English which will be the inputs for D4.3 must be provided on the VRE by **12th June 2022**. The overall results from across the 23 focal analyses will be used in WP5 cluster analysis.

Detailed guidance for Task 4.4 is provided in this document (starting on the p. 42) and additional space on the template to record the insights from this research task

- Task 4.5 **Vulnerability and sustainability assessment** (M24 – M29) focusses on understanding whether the current VC assemblage is vulnerable, resilient, and sustainable, which will be discussed in a 2nd workshop (M27 Nov 22).

Task 4.5 will draw on insights from WP3 (T3.3 and T3.4). It relates to stages of VCA often referred as 'opportunities and constraints' or 'risk assessments,' and relates to the fact that increasingly VCA supplement 'functional' or 'performance' analyses with wider social and environmental assessment of impacts (see Figure 1) and Section 3.7. Outcomes from T4.5 will also be highly relevant to T6.2. The output from this Task – Deliverable 4.5 – is due M29 (February 2023).

Detailed guidance for Task 4.5 will be provided in a later version of this document

- Task 4.6 **Upgrading strategies for the value chains** (M28 to M32) focusses on what could be done to improve the resilience and sustainability of the VC assemblage.

This equates to VCA methodologies 'recommendations' and 'future strategies' stages. The output for this Task – Deliverable 4.6 – is due M31 (April 2023). This will have many parallels with T7.2 also due M32.

Detailed guidance for Task 4.6 will be provided in a later version of this document

3. Task 4.3 – Extended Value Chain Analysis

3.1 VCA Principles

The principles in this section focus on what is required for Task 4.3 – Extended value chain analysis – undertaken through desktop review and interviews, as outlined in previous sections.

- The <u>purpose</u> of a Value Chain Analysis (VCA) is to look beyond the 'farmgate' to understand the manufacturing, service and policy practices that influence how value is added through the process of converting mountain assets into a final product sold in the market. VCA seeks to understand how these practices have economic, social, and environmental consequences.

- A value chain is the <u>meso level perspective</u> between individual firms and the abstracted economic sector. The key elements of focus include contextual understanding; structural analysis (using diagrams); analysis of economic, socio-cultural, and environmental valorisation practices; understanding of specific governance and institutional arrangements in the MRL; and 'tele-coupling,' which connects the chain to areas beyond the MRL.

- The following <u>framing questions</u> underpin the work to be done in this Task:
  - *What is the contribution of the MRL VC practices to:*
    - *Economic outcomes (change from original capitals)*
    - *Socio-cultural outcomes (change from original capitals)*
    - *Environmental outcomes (change from original capitals)*

- As noted in the CAF (Moretti et al 2021), MOVING goes beyond the conventional VCA to a more <u>extended VCA approach</u> that focusses on the assemblage of actors and practices within a socio-ecological system (SES). The boundary of the specific local system is the 'Mountain Reference Landscape' (MRL), but many VCs will be 'tele-coupled' with other SES's connected through VC flows and/or are impacted by the externalities of the MRL VC practices. The challenge for T4.3 is to reflect this complexity whilst enabling comparative findings to be generated within the person-months available for the tasks.

- Whilst the <u>methodology</u> has been informed by the structure and variables used in quantitative VCA methodologies, WP4 will provide a qualitative description of VC performance. Sources of data will be:
  - ***Qualitative synthesis of information on aspects of VC*** (desktop review of practices, actors, context, impacts)
  - ***Quantitative secondary statistics*** (presented as descriptive statistics without further economic analyses in desktop review) – see proportions throughout guidance and Annex 4

o   ***Elicitation of expert opinion*** (via interviews)

- The focus should be on a holistic overview of the VC in all dimensions (see Section 3.2 below). This may require a simplification of the individual practices or components in order to retain the overview. The approach is an art not science, where the analysis must be comprehensible and in sufficient detail to be useful, but simple enough to be understood. Therefore, we start with asking for an overall narrative of the current VC performance; and how it is related to the specific mountain territorial capital, before diving into data collection, to allow this holistic vision to guide the data collection.

- Most guidance focuses on natural resource-based commodities, where there is a relatively linear relationship from raw material to product. However, VCs involving manufacturing or services may be quite different and take on a network quality.

- We adopt the 'Russian Doll' approach – whereby all partners produce relatively simplified representations of their value networks but are encouraged to supplement the simple overviews with more detailed analysis of particular aspects of interest that advance the MOVING objectives and interests of their MAP.

- Where possible, standardised typologies will be provided to aid comparison and WP5's clustering analyses. However, these will always be subject to interpretation and debate. It is important that the final VCA describes the current performance of the VC in each MRL in a way that can be understood and used by the relevant local stakeholders as well as used in WP5.

- The power of VCA lies in presenting comparative approximations (relative proportions etc) rather than precise figures, particularly as there may not be exact data available.

- The temporal scale is the performance of the VC now (2021 – 22) so the most up to date data and sources should be used where possible. Always provide the year associated with the data or source and note if the situation may have changed since the data or sources were published. The methodology does not request time series data or analyses of past/future trends (WP6 will consider foresight) although partners are free to add this if they wish.

- The spatial scale is the performance of the VC in the MRL (defined by EVORA and detailed in D3.2[2] and D4.2[3]) and the socio-ecological system on which the VC depends. Published

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[2] Deliverable 3.2 – Land use systems vulnerability matrixes and vulnerability maps for the 23 reference regions
[3] Deliverable 4.2 – List of selected value chains

data and information on aspects of the VC may not be available at the MRL scale. Partners should work along the spatial units (MRL<NUTS3<NUTS2<NUTS1<Member State) to find relevant information and data; and record the unit of analysis at which these data are available. There may also be very useful sources about aspects of the VC drawn from case studies in other places; these should be used and the relevance of these findings to the specific MRL can be checked in interviews and workshops.

- The premise of the CAF and VCA guidance that we have reviewed suggests we can produce a <u>single representation of the VC</u>. However, there will be many significant differences/distinctions of instances within a category – **we are producing an overview of the whole**. There may be differences of perceptions of how the VC performs between actors (and sources). These important distinctions should be captured in the word template (Annex 1).

3.2 VCA dimensions and steps

Most guidance suggests starting with a product(s) to place a boundary on the VC for analysis. In MOVING we will also consider linkages with the wider SES.

As the way a VC behaves will vary a lot between different industries, the guidance is generic and will have to be adapted to suit the specific VC. However, the overall focus is to connect the VCA to the territorial capital in the MRL, particularly the role of the dominant land use system (LUS) (see also T3.3). There are some 'unconventional'' value chains whereby the VC analysis results may differ (for example, there may be more complex tele-coupled inputs) but they should follow the same steps. MOVING wants to highlight the role that the specific MOUNTAIN territory plays in the value chain, so it is important to capture this.

In Task 4.3, each partner should consider the dimensions and follow the steps noted below:

Dimensions
- All partners should analyse a **<u>focal VC</u>** centred around practices that produce a product or service for final consumption.
    - This focal VC has been identified by partners in D4.2 (Blackstock and Flanigan, 2021[4]).[5]
    - As a reminder, the focal VC should be bigger than a product or service produced by only one firm, but not too broad, for ease of data collection and analysis.
    - All partners will consider how their focal VC is structured and performing, understanding that the VC is not a neat linear chain but more of network or web of

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[4] Blackstock and Flanigan (2021) List of selected value chains and relationship building (V1.4) EC Deliverable 4.2.
[5] It may be useful to focus on a sub-value chain if the overall value chain is too complex. Outline the overall Mountain VC in step 1 below, and the range of sub-value chains; but then focus on one sub-chain for steps 1-5. The other sub-chains can be discussed as part of step 7.

actors and practices. Analysis of the focal VC will be the most comprehensive, as the other steps flow from initial mapping of the focal VC.

  o Focal VC Analysis encompasses three main steps (noted below), which are described in detail in Section 3.3.

- All partners should consider the **'<u>conducive enabling setting</u>'**, which comprises the conditions for the practices involved, and the rules/norms used by actors in the value chains.

  o This includes aspects of governance and institutions that support, but are not part of, the focal VC.

  o Analysis of the conducive enabling setting (step 5 below) is described in detail in Section 3.4.

- All partners should analyse how/if this focal **<u>VC is tele-coupled</u>** along the different dimensions of its VC network.

  o Analysis of geographic aspects of the VC beyond the MRL (step 6 below) is described in detail in Section 3.5.

- All partners should also analyse how their focal VC interacts with 1 or more further VCs within the MRL to form the **<u>VC assemblage</u>**.

  o Some ideas are offered at the start of D4.2 (Blackstock and Flanigan 2021).

  o Analysis of interactions with other VCs (assemblage) (step 7 below) is described in detail in Section 3.6.

Steps

The four dimensions noted above are covered in the first seven (of nine) steps listed below that comprise our extended VC analysis. In other words, these seven steps encompass analysis of the focal VC (steps 1-4), the enabling setting it sits within (step 5), how it is tele-coupled (step 6), and how it interacts with (an)other VC in the MRL (step 7). The final two steps will be covered in later versions of this document. The first step is to provide an orientation to help focus and prioritise the review.

1. Initial summary (narrative and graphic representation)
2. General context (including specific mountain territorial capital)
3. History and trends
4. Structure of VC (also called functional analysis or input – output)
   a. Economic, socio-cultural, and environmental valorisation

  __Focal VC analysis__ *(Section 3.3)*

5. ***<u>Conducive enabling setting</u>*** *– (Section 3.4)*
6. Spatial analysis and ***<u>tele-coupling</u>*** *– (*Section 3.5*)*
7. Interactions with other VCs (***<u>assemblage</u>*** *– Section 3.6*)
8. *Resilience and Sustainability Risks and Opportunities (covered in future guidance)*
9. *Recommendations to improve the performance (covered in future guidance)*

3.3 Focal VC Analysis (Step 1-4)

This section covers steps 1-3, noted in Section 3.2 above, covering the general context of the focal VC, history and trends affecting the focal VC, and analysing the structure and valorisation along the focal VC.

Initial summary (narrative and graphic representation) (Step 1)

The first step before further data collection commences is provide a narrative summary of your focal value chain. This is an important step to ensure that partners are clear about the key features and significance of their focal value chain for the purposes of data collection and reporting. Please draw on your existing knowledge of your focal value chain (including **information gathered for earlier deliverables and tasks**) to describe your focal value chain in terms of key elements of:

- Territorial capital – the stocks of environmental, socio-cultural, and economic capital in the MRL on which the VC is built
  - Land tenure and ownership which influence the resource units and resource systems are important to mountain VCs
- Practices that characterise the main stages of the value chain (production, processing, distribution and marketing, consumption) and exploit territorial capitals
- Actors involved in the practice stages
- Environmental, socio-cultural, and economic values flowing between various stages of the chain
- Key outcomes (overall values generated or destroyed) in the context of the MRL and in wider socio-ecological systems
- Main components of the enabling setting (infrastructure, policies and other institutions) that govern the VC in the MRL

Central to the narrative will be a graphical representation of the value chain that locates its activities and the related flows in the space and shows, at each stage, the different types of value created or destroyed.

An important question to have in mind when writing this summary is: *'what is the point?'* Recognising that different elements are more or less important in different value chains is important in developing this summary and ensuring that partners focus on important aspects and indicators to assess performance when completing the remainder of this document.

Together with this narrative summary partners should develop an initial version of the diagram template to consolidate existing knowledge and provide a starting point for further data collection. Guidance for the diagram is provided in Annex 2.

Partners were asked to generate an in initial 1-2 page summary and diagram by 6th December 2021 (placing it in the VRE: **https://data.d4science.net/ksu3**), which was then discussed in a WP4 drop-in session to further refine the process with partners' feedback. Changes to the

diagram template, including an additional slide for the conducive enabling setting, is available in the VRE (https://data.d4science.net/6kEk) alongside this version of the guidance document.

3.3.1 General context, including territorial capital (Step 2)

Provide a short summary of the MRL in terms of the type of territorial capital[6] available to the value chain assemblage. For consistency, please consider territorial capital in terms of key economic, socio-cultural, and environmental[7] resources, and consider the main issues present (see Figure 1 below for further insights).

- Information previously collected for D2.2[8], D4.1[9] and D4.2[10] can be used here – and can also be used as input to or extracted from MOVING regional MAP webpages. Also use information gained regarding reference variable and wider natural resources that are used in the value chain from T3.3. Data D1., D4, D5 – 7 and D32 in Annex 4 may also prove useful here. D26 in Annex 4 will be useful for those looking at tourism-based VCs.

Also note whether there are existing sustainability goals, visions, or strategies for the MRL that the VC might be expected to contribute to.

3.3.2 History and trends (Step 3)

- Identify the VC final product(s) and the value propositions[11] associated with it, including different categories of final products (e.g., premium or discount varieties).
- Provide a short summary of how long the VC (or production of the product within the chain) has existed in the MRL and whether this is typical of the wider VC in the region and Member State (MS).
- What are the trends in demand for the products?
    - For example, past, current, and future demand; domestic and international.
- Are there significant differences in type(s) of consumers.
- Are there local, national, or international competition and other influences on demand?
- Are there groups of different business models (see section 3.3.3 – size, structure, market orientation, technological innovation) and if so, which of these will the case focus on?

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[6] Note the MIRO stakeholder analysis called this endogenous resources – territorial capital is the language of the CAF but refers to the capital stocks that are held by actors within the MRL.
[7] Use WP3 resource units and resource system information
[8] Deliverable 2.2 – Initial set of policy briefs
[9] Deliverable 4.1 – Inventory of mountain value chains
[10] Deliverable 4.2 – List of selected value chains
[11] Value proposition is the feature(s) that make the product attractive to consumers.

- o Select the sub-value chain that has a story to tell about the primary production sector's contribution to mountain sustainability and resilience. It does not have to be performing 'well' but has to have something to offer our overall objective – policy advice on sustainable mountain development to respond to climate and biodiversity crises.
- Again, use information previously collected for D4.1 and D4.2; and T3.3.

3.3.3 Structure of the VC (Step 4)

In this step, we identify the **(social) practices**, **actors and flows** of the focal VC. It can be extremely complex and detailed; while our analysis must be sufficient as a foundation for discussion of performance, sustainability and to make recommendations, in MOVING we will adapt based on the principle that it is a means to an end and not an end itself.

Our analysis of the VC involves several steps – central is the process of drawing a diagram to illustrate the VC in terms of its main elements (practices, actors, and flows) which transform territorial capital inputs into the final product that is consumed. Figure 1 illustrates the conceptual basis of the type of diagram we will produce (based on the TEEB Evaluation Framework[12]), showing how the different elements are connected in relation to our focal VCs. Our key focus will be the 'mountain value chain' component, which we will 'zoom-in' on to illustrate the key practices, actor, flows and values relevant to each case. Full guidance, including shape/colour guidelines to be used in MOVING are provided (Annex 2).

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[12] The Evaluation Framework - The Economics of Ecosystems and Biodiversity (teebweb.org)

Figure 1: Overall Value Chain Analysis
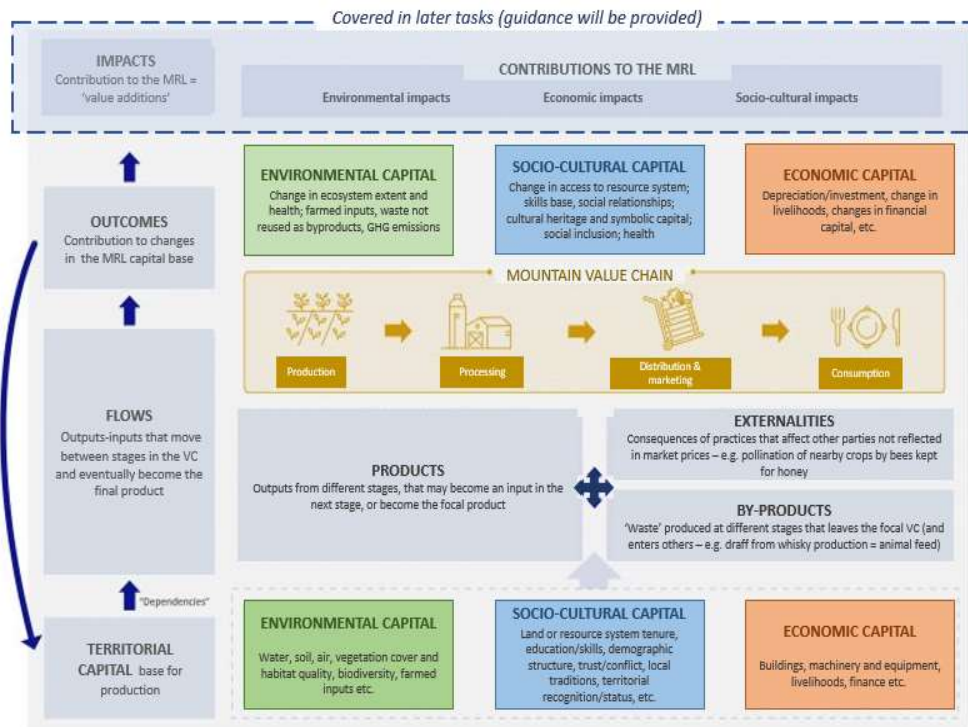
First, we will consider practices <u>directly</u> involved in adding value to the focal VC products; supporting service and infrastructure practices required for VC to function can be added later.

We need to focus specifically on how the practices in the MRL are influencing the performance of the VC.

Guidance for analysing the three main elements (practices, actors, flows) is provided in this section; valorisation (step 4a) is described in the next section (3.3.4).

Practices

In this guidance we refer to 'practices,' which are the social practices that characterise key stages within the chain.

The practices <u>associated with each VC stage</u> should be considered using the following typology:

- Production of commodities on which final product is based
- Processing (transformation of the commodity into the products)
- Distribution and marketing (how the product is provided to the consumer)
- Consumption of end-product(s)

The focus should be only on the practices that are directly involved in adding value to territorial capital that eventually become the focal products. Inputs to 'supporting' practices[13] should not be included in the VCA at this stage of the analysis (they come in section 3.4).

Practices within the VC are linked by 'flows' (discussed below), which include tangible materials but also competences and meaning.

For each stage in the VC, consider:

- How are practices assembled into the analysed value chain?
- What are the individual attitudes and habits that shape these practices?
- What relationships and collaborations that shape these practices?
- What is the know-what and the know-how used?
- Have the practices in your MRL been adapted to suit the specific natural resource system compared to how the VC behaves in other areas?

To help with the WP5 clustering, we also need to consider some wider issues:

VC governance structure

Within the overall VC (not specific to an individual actor), it is useful to consider the governance processes internal to the VC performance.

Which of the following definitions best fits the MRL VC? (And explain why):

- Market (low complexity of transactions[14], high ability to codify transactions, high supply base capability, low power asymmetry)
- Modular (high complexity of transactions, high ability to codify transactions, high supply base capability, medium power asymmetry)
- Relational (high complexity of transactions, low ability to codify transactions, high supply base capability, medium power asymmetry)
- Captive (high complexity of transactions, high ability to codify transactions, low supply base capability, medium to high power asymmetry)
- Hierarchy (high complexity of transactions, low ability to codify transactions, low supply base capability, high power asymmetry)

These definitions come directly from the paper by Gereffi et al (2005)[15]

Optional: consider D22 – 25 and D30 in Annex 4 as sources to benchmark the VC governance typology with broader regional trends.

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[13] For example, whisky production is closely linked to the food and drink tourism VC; however, we are not looking these linkages or analysing the tourism VC in the first instance, only the focal VC (producing whisky)
[14] Transactions are the exchange practices (monetary or otherwise) involved in a trade between a buyer and seller.
[15] available here: (PDF) The Global Economy: Organization, Governance, and Development (researchgate.net)

Have there been innovations in how the VC is governed? (E.g., new cooperative processes; new participatory or democratic institutions developed; new knowledge collaborations)?

What do these VC governance structures mean for the performance of the VC?

The overall governance type for the MRL is considered in the enabling setting section 3.4 below.

Forms of value chain innovation

In addition to innovations in governance, we are interested in where there are examples of innovation in the VC stages/practices.:

- Are there examples of new[16] final products (or inputs for the next stage) being produced?
- Are there new by-products being produced, and if so, what VCs do they enter?
- Are there new processing techniques being used? And if so, what is their motivation (to reduce environmental footprint, to reduce economic costs, other?)
- Are there new marketing or distribution approaches being used? And if so, what is their motivation (to reduce environmental footprint, to reduce economic costs, other?)
- What form of digital technologies (e.g., e-commerce) are used in each stage of the VC?
- Any other innovations not covered above?

Check Annex 4 D11 – 21 for information about the region's performance using patents and other indicators of innovations, and comment on how these might be relevant to the VC in your case.

What do these VC innovations mean for the performance of the VC?

Further information on non-VC specific enabling institutions, e.g., quality schemes for regions, are covered in Section 3.4 below.

Actors

These are extremely important due to the focus on social relationships and connections in MOVING and are the responsible for implementing practices and generating flows across the VC.

Consider who are the main actors in each stage of the VC. The actors should be considered using this typology. The main actors will likely be more than just the MAP members:

- LUS manager (farmer, forester, grassland manager)[17]
- NGO (including membership organisations not covered anywhere else)
- Civil Society (individuals or representative of civil society that is not a formal NGO)
- Innovation broker/advisor/extension officer
- Business (agricultural)
- Business (diversified or non-agricultural businesses)

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[16] New means was not typical practice for this VC stage in the previous decade.
[17] Previously called producer, but this is confusing when we have a practice stage called production.

- Public authority/policy maker
- Researcher
- Other

Note – the categories in this typology are not necessarily mutually exclusive and partners should be guided by the main expertise and interests of the actor in the context of the focal VC. It also may be possible for the same actor(s) to be involved in more than one practice stage in the VC (e.g., production and processing).

For each practice stage note (in terms of proportions[18] and/or any further commentary):

- Approximate number of actors in the VC
- Distribution of gendered roles (male, female, other)
- Participation of young people (<25, 25 – 40, >40)
- Ethnic origin and/or whether an 'incomer' to the MRL
- [this is also considered in section 3.3.4 Valorisation

For each actor *in the VC stages, consider their business models according to the following typologies:*

Size

- Small enterprise (fewer than 50 persons)
- Medium size enterprise (50 – 250 employees)
- Large enterprise (more than 250)

Business structure/ownership[19]

- Sole proprietor
- Cooperatives
- Partnership
- Limited liability companies
- Corporation

Market orientation

- For profit
- Not-for-profit

Technology and Innovation

- Low (for their sector) levels of innovation and technological uptake
- Medium (average for their sector) levels of innovation and technological uptake

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[18] Orders of magnitude, rather than exact figures – <25% 25-50%; 51-75%; >75%
[19]https://www.g2.com/articles/types-of-business-ownership

- Advanced/high levels (for their sector) of innovation and technological uptake

Flows

In this section we are interested in VC inputs and outputs – we refer to these **outputs-inputs as the 'flows' in the VC**, which move between stages, enter (in the form of territorial capital) and leave the chain (in the form of by-products or externalities[20]), and eventually become the final product. These can be in tangible and intangible forms, including:

- Physical materials/products (e.g., grain, milk)
- Information and meaning products (e.g., knowledge passed between actors, branding)
- Financial products (payments etc.)
- By-product – an externality from one VC that becomes an input into another VC
- Externalities – produced by the practices but not captured in any VC

Flows are the foundation for the valorisation process (Section 3.3.4), which is a fundamental component of the MOVING project.

It is useful to record these flows in association with practices in a table to help generate the diagram and illustrate transition through the chain and to consider the stages at which valorisation occurs. See Annex 1 and 2 for guidance on how to generate tables and standardise the representation of a VC in diagrammatic form.

It is useful to consider whether flows can be categorised as private, club, common-pool, or public goods.[21]

3.3.4 Valorisation and outcomes (Step 4a)

The purpose of Value Chain Analysis (VCA) is to look at how values are created in the chain or network; and how these values are distributed geographically (see section 3.5) and socially (see section 3.7 on impacts, which will be developed in T4.5).

In MOVING, we are considering values in terms of three categories: economic; socio-cultural; and environmental. In other words, there are 'market' and 'non-market' values to be considered at each stage of the chain or network.

These values are for all actors and practices within each stage, not per company.

In the context of MOVING, we consider valorisation as a series of practices resulting in outcomes (overall change in capital stocks), which includes the final products and other values generated across the process (see Figure 1 adapted version of TEEB diagram). While valorisation implies a positive process (increasing values along the chain) we also recognise that some values are

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[20] Externalities (e.g. pollination of surrounding crops by bees kept for honey), By-products (e.g. 'draff' residue produced in brewing process, which can be used as livestock feed).

[21] https://quickonomics.com/different-types-of-goods/

decreased by practices, so it is important to consider the range of values incurred (including neutral, negative, or positive values[22]).

Note that in every-day terminology, outcomes can also mean the consequences. In this methodology, consequences equate to impacts. Impacts are the way in which outcomes (change in capital stocks) affect societal well-being. This is the focus of T4.5 and will not be directly addressed in this current version of the guidance, as this guidance focusses on the current structure and performance of the VC.

The views of what values are generated are subjective and during the interviews and workshop (T4.4) we will be capturing the differences (if any) of opinion about values and outcomes associated with the VC. There may be important power implications of contested judgements regarding valorisation and outcomes.

As the cases are very heterogenous we suggest some common valorisation data that all cases should collect and some additional suggestions where partners may wish to collect data if possible (see the green italics).

Economic valorisation:

Traditionally, the point of the VCA is to consider where, how and by which actors, value is added to get to the outcome of change in economic capital. The type of information to be generated at each practice stage within this category includes:

- What built capital (buildings, machinery, equipment) is required for each stage of the VC?
  - Has there been an increased investment in these assets in the MRL per stage? Provide some examples.
  - How does this benchmark to the national picture?
- Total Market Value of final product(s) at the end of the value chain[23] *and total market value of product when leaving MRL (if known)*
  - Proportion of final market value-added at each stage (<25%, 25-50% 51 − 75% >75%)
- Profitability and livelihoods at each stage
  - What is the overall MRL employment rate? Is the VC stage employment rate higher or lower than this average?
    - Annex 4 D10 has the regional employment statistics to help benchmark the VC.
  - What is the overall MRL percentage employment rate in primary (linked to production stage); secondary (linked to processing stage) and tertiary (linked to

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[22] It is not the role of partners to make value judgements, but not to be limited to positive valorisation. At later stages in the process stakeholders will be consulted on this matter (interviews, workshop)

[23] It may be difficult to provide a single price for the product(s) as these may vary between markets. Provide a narrative about when and why different prices are achieved, and possibly minimum and maximum price if known.

marketing and consumption) sectors [remember this information is in the value chain cards from D4.1]?

- What proportion of the MRL employment in each stage is provided by this VC? (<5%, 5 – 10%; 11– 25%; 25 – 50%; 51 – 75% and >75%)
  - A narrative on whether livelihoods are viable in the MRL at each stage of the VC.
  - Estimated total FTEs employed in MRL at each stage (<25 FTE, 25 – 50; 51 – 100; >100)
  - Average wage for each stage of VC? Is this above or below the national minimum or living wage?
  - *Optional: Net income of each MRL actor p.a. (or return on turnover, return on investment)*
  - *Optional: Productivity of MRL FTE labour per hour*
  - How do these indicators benchmark to the national picture
- What is the contribution of the VC to public finances?
  - What taxes are paid by actors at various stages? (Optional: *Add amounts if possible*)
  - What subsidies and grants received by actors at various stages? (Optional: *Add amounts if possible*)
  - Starting from the National VC value added contribution to GDP (Optional: *and to balance of trade),* what proportion of this national contribution comes from the MRL? (<25%, 25-50% 51-75% >75%)
    - Annex 4 D8 records the regional GDP and D9 record the regional GVA which can help benchmark how the VC is contributing to the overall wealth of the region.
- Within the MRL, how has the economic capital base changed by the end of the VC (increased, decreased or stayed the same + short explanation)?

Where possible add the approx. volumes of material and the market prices associated with flows at each stage. Remember to state which currency is being used (ideally euros).

The concept of benchmarking is helpful in this category, in terms of considering averages for the sector in question in the context of the Member State. These issues should be considered at, both, desktop review and interview stages of the process to ensure that perceptions of profitability and how/where/by whom economic values are added are included.

Socio-cultural valorisation
MOVING also recognises the importance of other non-market values that contribute to the overall resilience and sustainability of the MRL. Socio-cultural values cover multiple dimensions.

The most important metrics in relation to the MOVING CAF relate to: skills, social relationships; cultural heritage; social inclusion; and health and wellbeing. For each stage consider how these

different values are addressed within the social practices involve, and the ways that these values change as the VC progresses.

The type of information to be generated within this category includes:

- Access to land use system (or equivalent used in T3.3)
    - How does the VC enable or constrain access to use of natural resources?
    - Is the resource system accessible to local entrepreneurs? (Highly accessible (low entrance costs); medium accessible, highly inaccessible (high entrance costs)
- Skills and education
    - Degree of professionalisation/educational training required at each stage (school leaver, further education, university first degree, master's or above)
    - *Optional: How does this benchmark to national figures for skills/training? – See Annex 4 D39 and D40*
- Social relationships at each stage (all to be categorised as high, medium, low, and short explanation for each stage)
    - Level of trust and cooperation between actors
    - Information (and material e.g., machinery or labour) sharing between actors
    - Local participation in decision making
    - Local ownership of the assets and control of the finances
- Cultural heritage and symbolic capital at each stage (all to be categorised as high, medium, low, and short explanation)
    - Contribution of VC practices to existing cultural landscapes
    - Contribution of tradition and customs in VC practices
    - Contribution of symbolic capital – VC dependence unique, or specific, to the reputation of the area?
- Social inclusion (some of these questions are also found in the description of actors)
    - Is MRL area subject to deprivation? (Poverty hotspot)
    - *Optional: How does this benchmark to national figures for income? – See Annex 4 D41 & D42*
    - Are occupations/actors in each VC stage gendered? (Majority male, majority female, mixed and short description)
    - Age profile of occupations/actors in each VC stage? (Majority young people <40; majority <60; majority over 60? and short description)
    - Do the practices or actors involve immigrants to the MRL? (Mostly local people, mixed, mostly immigrants and short description)
        - Where there are immigrants, are these immigrants from different ethnic groups from the dominant local population?
    - *Optional: How do these figures benchmark to national figures? Annex 4 D5, 6, 7 and 32 has information on the NUTS1 (national) and NUTS2/3 regional demographic statistics*
- Health and well-being

- o Are there any particular occupational hazards associated with practices at each stage of the VC?
- o How might the practices at each stage lead to increased or decreased physical and mental health outcomes for the actors involved? (Note for each stage whether there are overall positive health outcomes, mixed health outcomes, negative health outcomes)
- o *Optional: How do these figures benchmark to national figures? – See D43*
- o Do any of the stages of the VC have an effect on potable water, food safety/nutrition, zoonotic pests, and diseases, and air quality? Is this positive, mixed, or negative?
- o *Optional: How do these figures benchmark to national figures? – See D44*
- Within the MRL, how has the socio-cultural capital base changed by the end of the VC? (Increased, decreased, or stayed the same and short explanation)

Each of these values should be <u>considered at each stage (including linkages to different stages) along the chain</u>, with benchmarking providing a useful means to consider average figures by sector for the Member state in question.

Environmental valorisation

Like socio-cultural valorisation (above), this category recognises the importance of other non-market values that contribute to the overall resilience and sustainability of the MRL. In WP4, we are considering environmental values in terms of two dimensions: sustainable use of resources; and impact on the ecosystem and earth systems including climate. Again, for each stage, how are these values addressed within the practice stages involved? In what way do these values change through the different stages of the VC?

The type of information to be generated within this category includes:

- Sustainable use of resources
  - o What natural resources (water quantity and quality, soil fertility, air quality, rocks and minerals, wild flora, and fauna) are used as inputs to each stage of the VC? [Some of this will be detailed in section 3.3.1 on MRL territorial context, but there may be nonlocal inputs to be captured]
  - o What proportion of natural resources used at each stage are local to the MRL (<25%, 25 – 50% 51 – 75% >75%)?
  - o Is the MRL natural resource based being used at a sustainable rate within each stage? *(Optional: Compare to sectoral or national benchmarks) Annex 4 D2 covers soil erosion by water at regional scale.*
  - o What farmed resources (e.g., arable crops, forestry, livestock) are used as inputs to each stage of the VC? [Some of this will be detailed in section 3.3.1 on MRL territorial context, but there may be nonlocal inputs to be captured]

- What proportion of farmed resources used at each stage are local to the MRL (<25%, 25 – 50% 51 – 75% >75%)?
    - Is there competition for these natural and farmed resources from other VCs?
- Outcome for the ecosystem and earth systems including climate
    - Do the stages of the VC contribute to soil erosion and pollution, air pollution, water pollution, waste that cannot be or is not reused? Provide a summary per stage.
        - Annex 4 D3 has information on manure and slurry if relevant to your VC.
    - Do the stages of the VC have a negative or positive outcome for biodiversity or the quality of habitat in the MRL? (Overall negative, mixed, overall positive) – and provide a short explanation.
    - What contribution does each stage of the VC make to GHG emissions for the MRL? (Contribute to GHG emissions, GHG neutral, sequesters GHGs)
- Within the MRL, what is the change in the environmental capital base by the end of the VC (increased, decreased, or stayed the same and short explanation)?

Outcomes

Outcomes are the change in territorial capitals generated by the valorisation process. In addition to the outcomes assessed above,

- For the focal VC, what are the economic, socio-cultural, and environmental outcomes sought for this VC? (Note this is for the VC, not the MRL but it may only be possible to find outcomes for your MRL, in which case, you can check in interviews how the VC contribute (or not))
- Are these outcomes sought by the local VC actors within the MRL or a wider set of actors (such as the national society? All consumers?)

Please be clear about what scale the outcome information relates to. Later data collection may allow us to expand or improve the accuracy of data collected at the desktop review stage.

We will consider impacts as part of the sustainability analysis (T4.5) later (see Figure 1).

3.4 Conducive enabling setting[24] (Step 5)

This step involves analysis of the 'conducive enabling setting,' which sets the conditions for the practices involved, and the rules/norms used by actors in the value chains. This includes aspects of governance institutions and infrastructure that support, but are not part of, the focal VC.

Note that the language 'conducive enabling setting' is very positive – it is possible that these institutions may also constrain or hold back the VC in some cases (to be covered in T4.5 and T4.6). This may start to be information more relevant for T4.5 (vulnerability, resilience, and

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[24] CAF calls it conducive policy environment, but WP7 wants to cover more than policy. Others noted confusion between 'environment' here and 'environmental valorisation' so used term 'setting' instead.

sustainability (see section T4.5 – information about where the VC performance is resilient or vulnerable) or T4.6 (global upgrading strategies – what should be changed?). Therefore, please capture the information for use in these further tasks; but focus the reporting for T4.3 on the structure of the VC and the outcomes it does produce (not whether these are good or bad, improving, or declining).

Infrastructure

There may be important regional infrastructure that enable the VC to function. These are categorised as transport, energy, and digital communications. These should also be identified in the VC diagram(s) and placed in space see also Section 3.5 (re spatial analysis).

- What is the main transport infrastructure required for each practice stage (or flows between them) in the MRL and beyond? Annex 4 D27 – 28 has regional information on road freight patterns. Are the characteristics of the transport infrastructure provision constraining or enabling the VC practice stage?
- What are the main energy sources utilised in the different practices? How many of these sources are found within the MRL? To what extent is renewable energy generated or used in each practice stage? Are the characteristics of the energy infrastructure provision constraining or enabling the VC practice stage?
- What is the main digital infrastructure in the area required for each practice stage or flows between them? Are the characteristics of the digital infrastructure provision constraining or enabling the VC practice stage?
- Any other supporting infrastructure not covered in the guidance?

Governance Institutions

The conducive enabling setting includes public policies, private and voluntary initiatives that are <u>directly</u> related to the focal value chain[25]. This may be actors and practices within the MRL but also may be regional, national, or even international organisations. Please focus <u>only</u> on the ones that directly affect your focal value chain, in your judgement and based on your document analysis (this can be checked in the interviews and/or workshops).

Below we set out some of the main categories that can enable or constrain the VC's structure and performance. Actors from public, private and third (voluntary/civil society) sector may be involved in each category. In each case, consider whether any of these types of institutions exist and what is the relationship with the VC in your MRL, including whether these do enable the VC to continue. Note whether these institutions are local to the MRL, regional (MRR), National, EU/International.

Consider each of the following aspects along <u>each practice stage of the VC</u>:

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[25] In this way, some of the material will start to help us answer T7.2 (February 2022-April 2023) identification and audit of existing policies at national and MRR administrative levels. The guidance has been shared with HCC to check the work can dovetail and the T7.2 can build on this analysis. The main difference is that WP7 is interested in the wider opportunities for rural development of mountain regions, whereas this task starts from a bounded analysis of the specific value chain.

- Policies

- What are the main government policies that enable or constrain the VC in the MRL?

- Strategies and Vision

- Are there sectoral or VC specific strategic plans or documents related to this area?
- Do any other territorial strategies and visions (e.g., Green recovery strategies) have a direct relationship on the function and performance of the VC?
- What do these strategies and vision tell us about the current structure of the VC and how it is generating outcomes?

- Projects and Programmes

- Are there sectoral or VC specific projects or programmes related to this area? These can be State policy (e.g., aspects of rural development plan) or private sector projects.
- Do any other territorial projects or programmes have a direct relationship on the function and performance of the VC?
- What do these projects and programmes tell us about the current structure of the VC and how it is generating outcomes?

- Cooperation

- Are there any formal collective action institutions supporting the VC?
    - Note, cooperatives involved directly in the VC are discussed in Section 3.3.3 under Actors.
- Are these located in the MRL, or do they extend beyond it (e.g., national cooperatives, international organisations)?
- What do these collective action institutions tell us about the current structure of the VC and how it is generating outcomes?

- Regulatory

- Are there any legal requirements for the VC practices (Health and Safety, climate and environmental standards, manufacturing licences, employment law, taxation, and property rights etc)?
- Remember there may also be 'soft law' whereby firms have legal contracts with actors but these are not necessarily regulations implemented by the State.
- What do these regulatory institutions tell us about the current structure of the VC and how it is generating outcomes?

- Finance

- How are the practices in the VC financed?
- Is access to capital and revenue finance a problem for any of the actors?
- Is the VC associated with any 'new' private sector investment (e.g. payment for ecosystem services, carbon credits)?
- Are there public subsidies or incentives that support practices involved in the structure of the VC and how it generates the outcomes?

- Are there taxes or other levies that apply to any practices involved in the structure of the VC and how it generates the outcomes?
- Have any other fiscal changes (interest rates, exchange rates) had an impact on in the structure of the VC and how it generates the outcomes?
- Has the price of land changed and does the land market influence the performance of the VC?
- What do these financial institutions tell us about the current structure of the VC and how it is generating outcomes?

- Certification processes (territorial, quality assurance)
- Are there any territorial or quality assurance processes associated with the structure of the VC and how it generates the outcomes?
  - Include quality certification processes (e.g., PDO/PGI etc.)
- Are there any other certification processes associated with the structure of the VC and how it generates the outcomes?
- What do these quality institutions tell us about the current structure of the VC and how it is generating outcomes?

- Knowledge, advice, and skills
- Are there any specific training and skills provision for the VC practices provided in the MRL? At regional or national level?
- Are there knowledge advisors available to support the VC practices within the MRL? At regional or national level?
- What do these knowledge institutions tell us about the current structure of the VC and how it is generating outcomes?
- Note that informal sharing knowledge and advice between VC actors is covered in socio-cultural valorisation (Section 3.3.4).

- Market Structure
- How would you describe the market structure(s) involved in the VC practice stage(s) using the following typology:
  - Perfect competition
  - Monopoly – one seller
  - Oligopology – few sellers
  - Monopsony – one buyer
  - Oliogopsony – few buyers
  - Other (please describe)
- Are the power relationships between the actors involved in these market structures symmetrical or asymmetrical? If the latter, is it high, medium, or low asymmetry?
- What do these market structures tell us about the current structure of the VC and how it is generating outcomes?

- Overall Governance Structure

Governance refers to roles and responsibilities across all the relevant actors in the enabling setting. Many studies of governance consider different types of governance, linked to the dominance of the State in steering practices; and whether authority is hierarchical (power over others) or relational (power with others).

For the MRL, how would you characterise the governance system?

- Hierarchy (dominated by the State, authority used to 'command and control' actions of others)
- Markets (weak(er) State but hierarchical authority with private sector/markets used to 'command and control' actions of others)
- Networks (strong State influence used to negotiate delivery by public and private partnerships)
- Communities (weak(er) State, decisions negotiated by communities and local firms)
- What does this governance style tell us about the current structure of the VC and how it is generating outcomes?
- What, if any, are the territorial governance conflicts that effect the VC?

Remember the VC governance structure is covered in Section 3.3.4.

3.5 Spatial analysis and tele-coupling (Step 6)

For these stages, work with an abstract summary of the focal VC in terms of main actors, capitals and flows and focus on where these take place in space. The focal VC diagram is non-spatial so it is important to consider what parts of the VC occur within the MRL, and which may spill over into regional (NUTS3 and/or MRR); national (NUTS1 or 2) and international space. This is important to consider how the MRL is part of a wider tele-coupled socio-ecological system involved in the VC and where values are added.

It is important in MOVING to identify what aspects of the VC are located within the MRL and which are elsewhere. This step allows us to consider elements of the VC that are within and those that extend beyond the geographical boundaries of the MRL. Where VC flows connect to different socio-ecological systems we refer to this as tele-coupling (see CAF). This aspect of our analysis helps identify what is specific to the MRL and what is more general. In this aspect of analysis we should:

- Identify for each practice stage, the proportion[26] of practices taking place in each of the 4 spatial units (MRL, MRR, nation, international)
- Identify for each practice stage, the proportion of actors are involved in each of the 4 spatial units (MRL, MRR, Nation, international). Identify where the different consumers

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[26] <25%, 25-50% 51-75% >75%

markets are based and if dealing with a global VC, the main ports associated with the VC import/export and the main export markets.

- Identify the proportion of the economic, socio-cultural, and environmental outcomes identified in section 3.3.4 accruing in the 4 spatial units (MRL, MRR, Nation, international).
- Identify if the tele-coupling involves MRL sending flows, receiving flows, or spill-over flows (a node in a network between sender and receiver)

- *Optional: The location of actors/practices could be distinguished in terms of the following EU rural-urban typology[27] categories:*
  - *Predominantly urban regions (NUTS level 3 regions where at least 80% of the population live in urban clusters)*
  - *Intermediate regions (NUTS level 3 regions where more than 50% but less than 80 % of the population live in urban clusters)*
  - *Predominantly rural regions (NUTS level 3 regions where at least 50% of the population live in rural grid cells)*

In this step, we will also use diagram(s) (see Annex 2) to illustrate where elements are located in the MRL and where they are located in other regions (labelled with the name of the region/country). This could quickly become very complex, so we suggest you don't try to represent everything, but instead focus on the main issues that are interesting in space, including only the priority elements of the chain and where value and outcomes are realised. More than one diagram may be created to represent different aspects of their VC narrative.

3.6 Assemblage/interactions with other VC (Step 7)

It is important that we consider the focal VCs within the **wider context of rural development** in the MRL. One element of this is to look closely at how the focal VC interacts with other VCs located in the area. Partners should **list all the other VC that intersect with the focal VC**, thinking about all of the practice stages. Subsequently, partners should select one or two key VCs that impact and/or are impacted by the focal VC for closer analysis.

** Partners should **copy and paste the additional question shown in Figure 2** into their ECVA template (i.e. Annex 1) at the start of Section 5. (i.e. before Q5a which asks that you identify 1-2 additional VCs)**

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[27]https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Territorial_typologies_manual_-_urban-rural_typology#Published_indicators

Q5-Sup. In the space below, please list all of the VCs in your MRL that interact with your focal VC: (add additional lines as necessary)

-
-
-
-
-

Figure 2: List of VCs intersecting with focal VC in MRL (copy and paste to ECVA document)

For this stage, work with an abstract summary of the focal VC in terms of main actors, capitals and flows and focus on where these interact with another VC(s).

In this stage partners may choose 1-2 additional VCs that have important interactions with the focal VC; regional MAPs may be consulted in their selection. Where possible, energy VCs are of particular interest to the EC (per request by Alexia Rouby). These interactions may be positive or negative.

Complete the template section for these additional VCs

- What common territorial capitals are involved in the assemblage?
- Which practice stages are involved in the assemblage? Is the same practice that generates the assemblage, or does the assemblage require adaptation from original practices in the focal VC?
- Which actors are involved in the assemblage? Does the assemblage involve new actors not involved in the focal VC?
- What flows between the two VCs (products – materials, information, finance, by-products, externalities)?
- Does the assemblage influence the outcomes in the focal VC? If so, in what ways?
- What additional supporting infrastructure or institutions are involved in the assemblage?
- Which dimensions of the assemblage exist within the MRL, and which spill over into regional or national or international space?
- Note where there are synergies, and conflicts or problems in this assemblage.

See Annex 2 to generate assemblage diagram(s) to illustrate key points of interaction between focal and additional VCs and how the assemblage influences outcomes in the focal VC in the

context of the MRL. This will require strict definition of the boundaries of both VCs so that the connections can be identified.

> We suggest that as with the focal value chain analysis, you set out a summary[28] of what aspects of assemblage you wish to analyse and why – this will also focus the diagram. Due to the complexity of assemblage, diagrams can also become complex very quickly, so it is focusing-in on interesting aspects of interaction (including only relevant details) is recommended. Multiple diagrams may be used to illustrate additional points where necessary.

3.7 Considerations for future Tasks

Many methodologies consider how the VC is at risk from internal and external threats; or suggest undertaking a SWOT analysis to consider what, if any, steps are needed to improve the VC performance.

Although we are not working on Sustainability and Resilience (T4.5) & Upgrading Strategies (T4.6) yet it would be useful to capture any ideas that you come across when reading secondary sources. Also add anything from the T3.3 interviews and workshop regarding comments made about the VC vulnerability and adaptive capacity mechanisms to this section. The definitions of vulnerability, resilience and sustainability are found in the glossary of D2.1 and are summarised by the CAF proposition: To explore what has worked in other areas in terms of extending and strengthening value chains connected to climate change and sustainability. It is important to note if these data relate to the social practices and territorial capital within the MRL or are issues from other parts of the tele-coupled VC.

We will be focussed on these questions:

- o How can local assets be mobilized into relational configurations with networks to build resilient and sustainable value chains?
- o What strategies can improve the resilience and sustainability of value chains?

In particular, we will be asking about the VC strategies used in response to Covid 19 crisis in T4.5. Other suggestions include more focus on circular economy (converting waste into by-products and tighter assemblage of these VCs).

Please also note any other data or observations that might be useful to WP5 (clustering); WP6 (foresight) or WP7 (policy).

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[28] You could add a row to section 5a in the template to record your summary

4. Guidelines for T4.3

Each partner will produce an overall report on their VC case(s) combining the findings from T4.3 (desktop review and stakeholder interviews) and T4.4 (participatory workshops). The findings from T4.3 (November 2021-March 2022) will provide the content to discuss in T4.4 (April/May 2022).

The methodology uses the iteration between desktop reviews (to be fitted around the other tasks ongoing in the rest of the project) and interviews (Jan-March 2022).

Below is some guidance on how to undertake the diagrams and desktop review and some principles and guidance for the interviews.

4.1 Diagrams

Purpose

Drawing a VC diagram is the foundation for most VCA methodologies. The diagrams should be used to generate a shared understanding of the VC. They can help to tame complexity and provide the overall structure of the VC being considered.

Before starting the desktop review, we suggested that research teams create an initial diagram of the focal VC. This initial diagram acts as a starting point to to guide the desktop review (and search for sources and content) and will be adapted and improved based on data generated in the desktop review and interviews. Diagrams generated can also be used to support interview conversations and as knowledge co-construction tools in the participatory workshops conducted in T4.4. Annex 2 provides links to a template, which can be used to generate a range of diagrams to distil and illustrate key elements.

Focus and content

The diagram is built up from the structure of the VC; relating practices to actors, generating flows and values long the chain until a final product(s) and associated outcomes are produced.

The process here is to build up the complexity over time. Initially, the diagram should focus on the practice-actor-flows-product relationship.

As well as one (simplified) diagram for each focal VC in the assemblage, further diagrams should be generated to focus on particular aspects, including the conducive enabling setting, and other areas that are helpful in partners' particular case (e.g. business models, valorisation processes, etc).

Two additional diagrams, to capture assemblage and spatial/tele-coupled aspects, should also be developed by each partner. Any further diagrams may be generated at partners' own discretion to support analysis.

Diagram protocols

Using shared protocols makes comparative analysis more tractable.
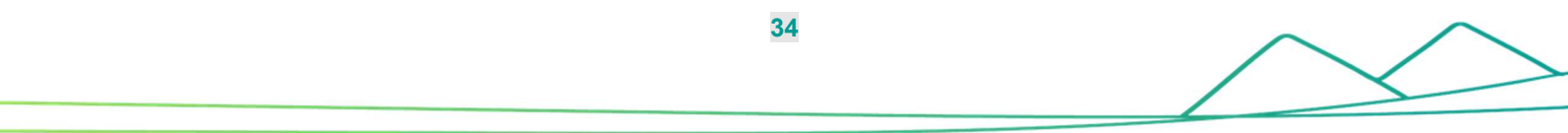
- Please work in PowerPoint using the template provided in Annex 2, including templates for: the focal VC, conducive enabling setting, assemblage, and spatial analysis.
- A legend is provided, including specific shapes to differentiate the different elements (e.g. actors, practices, flows). Whilst colour is also used in the template, the different shapes and shading/contrast are intended to allow reproduction in black and white.
- Annotate the correct shape with the specific categories. The detail should be kept in the word desktop template. Abbreviations may be used and noted at the bottom of the slide to save space.
- Background shapes are used in the spatial diagram template to denote nested spatial units – MRL, MRR, Member State and beyond to allow visual representation of the tele-coupling.

Before starting the desktop review, we suggested that research teams create a diagram of the focal VC and use this to guide the review (and search for sources and content). The diagrams should be dated and titled. **Revised diagrams should have new dates and version numbers to illustrate how the analysis evolves when more information is gained.**

The diagrams will be used in interviews and T4.4 workshops as knowledge co-construction tools.

4.2 Desktop review

The template for completion in the desktop review (and interviews) includes expanded information on what is required comprises Annex 1 of this document and can be found in the VRE here: https://data.d4science.net/6kEk. In summary:

Purpose
The desktop review will create an information baseline about the VC in order to understand the focal value chain and how monetary and other values are generated at different stages. Starting with a desktop review can reduce stakeholder fatigue.

Focus
The desktop review will extract information from existing publicly available documents about VCs and their products, practices, actors.

The focus of the analysis should be:

- Focal product (in relation to VC)
- Selected MRL (where the VC is located)
- National production (to understand the local production as typical or not)

Sources
We suggest you start with the following sources for your desktop review:

- Scientific sources (academic database such as Web of Science)
- Grey literature from relevant industry groups
- Generic search engines

- Secondary statistics in Annex 4
- Any other optional statistical sources relevant to your MRL

Remember these sources will have different lenses:

- About the product, but not always specific to mountains or your MRL
- About mountains/LAU, but not specifically your product
- About national production/VCs, but not just mountain region

MOVING has a very specific focus on the selected MRL and often new or emerging VCs, so it is unlikely that there will be many sources that directly address the specific VC only in that MRL.

Remember the interviews (T4.3 Stage 2) and workshop (T4.4) can be used to check information derived from national or topic sources.

Members of your MAPs may be able to recommend specific documents or databases, in addition to those we provide in Annex 4. Partners might want to consider whether there is any sustainability/triple-bottom-line accounting and/or calculation of social or environmental return on investment for your sector/industry/VC? Consider what these could tell you about what types of (non-market) values are added in your VC and what indicators might be sensible to collect?

Please ensure you record the sources used, and the search terms for databases within the template.

Content

The desktop review includes seven steps (which can be addressed in any order) that gather a range of information about the focal VC and the environment and interactions that support overall understanding. These are:

- Focal VC Analysis
  - Initial summary (Step 1)
  - General context (Step 2)
  - History and trends (Step 3)
  - Structure of the VC – practices, actors, flows, and valorisation of each (Step 4)
- Conducive Enabling Setting (Step 5)
- Spatial Analysis and Telecoupling (Step 6)
- Interactions with other VCs (Assemblage) (Step 7)

The desktop review is the first part of completing these steps, which also form the basis for interviews conducted in T4.3 Stage 2.

We suggest that each text box or table is as concise as possible. As a guide, please aim for a paragraph or short bullet list (max one page) depending on the relevance to your case. Overall, the completed template should not be more than 80 pages (excluding reference list – the blank template is 69 pages).

As highlighted throughout our project meetings, **please work smart** (i.e., reuse/capture data relevant to other tasks/WPs wherever possible. If you find content that is not required for this task

but is relevant to the rest of WP4, proposed clusters in WP5, WP6 Foresight or WP7 enabling setting audit, please do make a note in the relevant section of the template.

Record the answer to each question under the relevant heading in the template (Annex 1). Where there are multiple sources of evidence, summarise the information from each source in a separate bullet point and then provide a summary. Include any major differences in the sources.

Ensure it is clear what is the source, date, spatial unit of data and generalisability (e.g., information on the product but not in your region).

To aid the iterative methodology, please note to yourselves where you may want to revisit aspects in interviews or workshop.

Other issues

The final report from each case will be in English to allow the WPLs (Hutton) to generate Deliverable 4.3. If you wish to complete the template in your own language (particularly if there are quotes or material, you want to copy paste into the template) that is fine but obviously it reduces the ability of other partners to use material as inspiration and learning.

We suggest you have tried to do your initial desktop analysis by the end of February. Note – you will have time after this date to complete your desktop review as new sources may be identified during interviews.

Adjust timing to respond to seasonal dynamics of YOUR case (e.g., lambing, snowstorms, tourism seasons) – think ahead as Deliverable dates can't be changed.

Please ensure all data sources to be referenced using Name, Date, Title and where possible DOI or Website Address. Space is included beside each question for ease of recording and associating information with sources. Please also ensure you compile all sources used in the reference list at the end of the template report. This will allow the D4.3 to prepare a full list of references and provide a more transparent quality assurance for the research.

4.3 Interviews

Interviews comprise Stage 2 of the Extended Value Chain Analysis (EVCA), therefore **the same template (Annex 1) used in the desktop reviews (Stage 1)** will also be used in Stage 2.

Purpose

The aim of the interviews is to add information for overview on VC performance by:

- Filling in information that were not available via secondary sources
- Exploring the perceptions and preferences of specific local actors in the MRL that may not be captured in published material

The key-informants are expected to provide multiple relevant perspectives to the focal VC.

Content

Interviews will be used to supplement and check information gathered in the desktop review, to complete sections based on the same seven steps (which can be addressed in any order) gathering a range of information about the focal VC and the environment and interactions that support overall understanding. These are:

- Focal VC Analysis
  - o Initial summary (Step 1)
  - o General context (Step 2)
  - o History and trends (Step 3)
  - o Structure of the VC – practices, actors, flows, and valorisation of each (Step
- Conducive Enabling Environment (Step 5)
- Spatial Analysis and Telecoupling (Step 6)
- Interactions with other VCs (Assemblage) (Step 7)

To reiterate, we suggest that each text box or table is completed as concisely as possible integrating data collected from all relevant sources. As a guide, please aim for a paragraph or short bullet list (max one page) depending on the relevance to your case. Overall, the completed template should not be more than 80 pages (excluding reference list – the blank template is 69 pages).

Answers to each question should be summarised under the relevant heading in the template (Annex 1). Where there are multiple sources of evidence (documents, interviewees), summarise the information from each source in a separate bullet point and then provide a summary. Include any major differences in the sources.

Ensure it is clear what is the source, date, spatial unit of data and generalisability (e.g., information on the product but not in your region).

To aid the iterative methodology, please note to yourselves where you may want to revisit aspects in the workshop or further interviews.

Focus

It is important to note that the <u>EVCA template (Annex 1) is NOT intended to be used as an interview guide</u> and there is no pro forma or specific approach dictated to partners. Instead, partners should assess who to approach to discuss particular aspects of the VC and adjust the focus of interviews accordingly.

In your approach please consider the following:

- Interviews may focus on elements where secondary data is unavailable, or where further information or checks would be helpful.
- Different stakeholders will be relevant to different elements, therefore questions should be tailored to the situation.
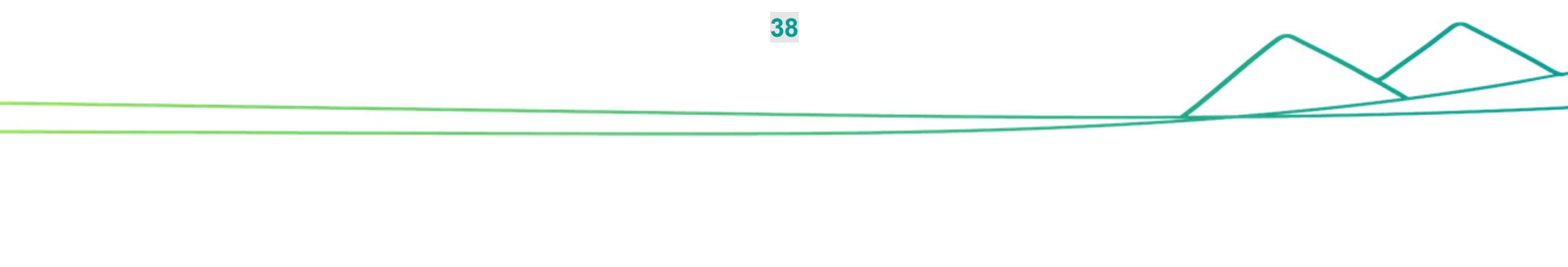
- Interviews may generate data relating to stakeholders *perceptions* of the VC, and aspects of it; it is important to capture this range of perspectives which may relate to the underlying values of individuals involved in the VC
- Partners may decide to start exploratory interviews with key stakeholders, before narrowing down the focus on specific elements with additional informants based on role and expertise.
- As a starting point, an outline semi-structured interview guide is offered in Figure 3, which partners may use/change at their discretion.

Figure 3: Outline interview guide

Introduction
- Explanation of the project, objectives, utility that you want to give it, objectives of the interviews.
- Personal profile questions; age, level of studies, experience in role connected to focal VC.

General questions
- What is your role in connection with the focal product?
- How would you define the focal VC? i.e. What practices are involved (e.g., in production, processing, distribution and marketing, consumption)
- How long has the value chain existed in the area and how has changed over time?
- What are the key linkages between the focal VC and other VCs in the area?

Actors involved
- Who is involved in the focal VC?
- What relationships and practices have impacted/influenced the VC? What is the role of individual attitudes and habits here?

Infrastructure and instututions
- Considering each practice stage, what are the key regional infrastructure (transport, energy, digital) that enable the VC? What aspects of regional infrastructure constrain the VC?
- Considering each practice stage, what aspects of governance/institutions enable/constrain the VC?

Flows
- What elements of territorial capital enter the VC (and at what stage)?
- What are the products flowing between VC stages/actors
- What are the by-products resulting from the VC? and which related VC(s)do they enter?
- What other externalities/consequences result from the VC?

Outcomes
- What is the contribution of the focal VC in terms of economic outcomes?
- What is the contribution of the focal VC in terms of socio-cultural outcomes?
- What is the contribution of the focal VC in terms of environmental outcomes?
- What aspects/values of the focal VC take place outside the MRL area? Are these at local, national or international levels?

Innovations

- Are there examples of new products being produced? (final products, by-products, inputs for the next practice stage)
- Are there new processing techniques?
- Are there new marketing or distribution approaches being used?
- What is the role of digital technologies in each stage of the VC?
- What is the impact of these innovations on the VC's performance?

Final questions/close
- Ask for other stakeholders (comment on the list of actors to interview).
- Any questions or anything you would like to add?

Sources

Sampling strategies (i.e. who to approach for interviews) should also be dictated by need, but we ask that you consider the following points in your approach:

- Incorporate the diversity and range of stakeholders involved in your VC and assemblage
- Pay attention to gender/age/local or incomer characteristics
- Around 15-20 semi-structured interviews (of varying depth/length)
- For each actor please ensure you record information relevant to M&E[29]

Data collection
- Interviews may be conduced face-to-face (depending on Covid restrictions), online (video conferencing software, such as WebEx or MS Teams), or by telephone.
- Please ensure that interviews are audio recorded but they do not need to be transcribed or translated at this stage. This is to allow specific aspects to be revisited in WP5 or for scientific papers if needed (transcription or translation can be done for these specific parts then). If the participant does not consent to recording then comprehensive note-taking is the minimum requirement so that partners can refer back to data in the context of analysis for WP4 and future WPs where necessary.
- Data should be recorded in the EVCA template (Annex 1) alongside information collected in the desktop review – this will involve an interactive process of undertake interviews in parallel with desktop review, where one informs the other (and vice versa) – e.g. to interview to confirm/add detail to desktop analysis, or identify additional sources for review. Interviews are likely to be required to 'zone in' on the MRL- specific data, where secondary sources report to MRR, or national levels.

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[29] Type of actor: Public authority/policy-maker; Researcher; Business (agricultural); Business (diversified or non-agricultural businesses); Innovation broker/advisor; Producer & producers associations; NGO/CSO; Civil society; Other. Gender: Women; Men, Other. Area covered by stakeholder consulted: Local/RL; Regional/RR; National; Other.

- Please ensure that you keep proper records of data sources; space is included beside each question in the EVCA template for ease of recording and associating information with sources. In particular, **be clear where information has come from interviews rather than secondary sources.**
- Adjust timing to respond to seasonal dynamics of YOUR case (e.g., lambing, snowstorms, tourism seasons) – think ahead as Deliverable dates can't be changed.

Other issues

The final report from each case will be in English to allow the WPLs (Hutton) to generate Deliverable 4.3. Initially, if you wish to work on the template in your own language (particularly if there are quotes or material, you want to copy paste into the template) that is fine but obviously it reduces the ability of other partners to use material as inspiration and learning. The final version of the template must be provided in **English** to allow Hutton to run the analysis.

The deadline for integrated templates (combining insights from desktop review and interviews) is the end of March 2022, ahead of participatory workshops (T4.4) to be conducted in April/May. *Guidance for T4.4 will be provided in early 2022 to support partners' planning.*

4.4 Proposed analyses and final products

The aim is that each VC case will have a template that collates data from the desk top review, interviews, and workshop (T4.4) to achieve a synthesised view of how the value chain is currently performing; the conducive enabling setting; how it is telecoupled; and how it works as part of a wider assemblage. There will also be four (or more) accompanying diagrams that summarise these different perspectives (structure, enabling setting, tele-coupling, assemblage).

These templates will provide the narrative qualitative data analysable by the Hutton team within Nvivo12 under each template heading; and some semi-quantitative data to compare. We are exploring using qualitative comparative analysis approaches to quantize data under each heading further, to derive some descriptive statistics.

The final narrative summary (Section 1.2 of the EVCA, Annex 1) will be particularly important in terms of highlighting key elements describing your focal VC and are likely to be the basis for information sharing and comparison across partners' cases. Like the initial summary, this final summary should match the final focal VC diagram (Annex 2) and be written based on the fundamental question of *'what is the point?'*

Each case team will also be encouraged to find a specific angle they wish to exploit for their practice abstracts (D4.4) and their digital stories (D4.7); as well as in case or regional specific scientific publications.

Hutton intends to lead a paper summarising the experience of implementing a comparative extended value chains analysis (with co-authorship to be decided per consortium agreement). All authors of the 23 templates will be acknowledged if they are not co-authors of the paper.

5. Guidelines for T4.4 (Interactive workshop)

5.1 Aim

Main aim of the workshops is to **verify and add findings** created through the field work with a specific emphasis on **understanding diverse groups of actors**; and to establish where additional information or divergent views arise from a collective discussion compared to the scientific analysis of the information before the workshop (this can aid WP2). The workshop *is not supposed to substitute* data collection process that should be carried primarily through a field-work before the organization of the workshop.

5.2 Engaged stakeholders

The interactive workshops serve as a platform for collective discussion of **multiple groups of stakeholders**.

Table 2: Engaged stakeholders in the interactive workshops (T4.4)

Group	MAP members	Non-local actors
Expected knowledge	Knowledge on focal value chain functioning (practices, actors, flows etc.)	Specific knowledge to cover the gaps (e.g. activities outside the MRL that are important to understand and discuss)
Sample size	6-12 stakeholders	4-8 stakeholders
Form of engagement	Group discussion held in personally (or online)	Presentation distributed in an electronic form
Information	Presentation and discussion of findings from desktop analysis and interviews	Executive summary of the findings including the VC diagrams (i.e.voice-recorded PPT presentation)
Feedback	Notes from the group discussion	Semi-standardized questionnaire in electronic form
Reporting	Data should be recorded in the EVCA template (Annex 1)	

The stakeholder groups will include local and non-local actors, sampled from the MAP members and other actors involved in the empirical study on focal value chains in the region. All stakeholders will be purposefully selected with the use of judgmental sampling (i.e. research teams choose and recruites specific actors, who will be invited for the workshop, based on their

available experience with the studied value chain). The engaged stakeholders can be theoretically divided into **two groups** (Table 2). Presentation of the case-study results and collection of the feedback from stakeholders will utilize a **specific approach for each group** (Table 2). Please note, the names of the groups are arbitrary and do not necesseraily have a geographical meaning.

5.3 Procedure

5.3.1 Interaction with MAP members

It is recommend to organize the group discussion in **personally**. If it is not possible (depending on your situation) you can organize a meeting with the MAP members in an online form.

The venue needs to have a convenient equipment for organizing the meeting (projector, flip board etc.) It is recommended to use the venue, where you have organized MAP meetings in the past or the vulnerability workshop (WP3) last year.

Selected MAP members should be invited for **2-hour workshop** (including a short coffe break). Duration of the workshop is just indicative. The overall time can be eventually extended if needed. It is also possible to extend the meeting with additional social activities (e.g. lunch) or additional discussions related to the project. All research teams are encouraged to use this opportunity for strengthening ties with the stakeholders involved in the project. Organization of the workshop will follow a common protocol (Table 3).

5.3.1 Interaction with non-local actors

Interaction with non-local actors will be conducted in **electronic form** only. This approach will allow to address different stakeholder groups outside the region. Stakeholders will be selected and addressed based on judgemental sampling (see the Expected knowledge and Sample size in the Table 2 above).

Stakeholders in this group **will receive in electronic form**:

- Cover letter that will include information on the project and the specific task for the stakeholders (presentation of the findings from T4.3 + providing feedback using a suitable communication means)
- Informed consent
- Voice-recorded powerpoint presentation (A simple video instruction how to make such recording is available for example here).

Recruitation process should be conducted in accordance to usual practice (e.g. contacting stakeholders with a cover letter in the first step, sending informed consent and powerpoint presentation in the second step).

The presentation provided to the stakeholders can be based on the presentation used in the workshop (see the Table 3 below). However, it is needed to shorten the presentation (reduce number of slides, shorten comments associated with the slided etc.). Duration of the presentation with the **voice-recorded comments** should be about **15-20 minutes**. The presentation will cover main findings from the VC analysis in a similar form to the workshop presentation. Presentation of the findings needs to be tailored to target audience.

At the end of your presentation explain how the feedback will be collected. This can be done by:

- Standardized online questionnaire
- Telephone interview
- Other communication means (e.g. e-mail)

Feedback provided by the stakeholders will be standardized and framed by the following general question:

Please, provide a brief comment on the findings generated in our study. Focus on the following aspects and provide a seperate comment to each section.

(1) Structure and functioning of the focal value chain
(2) Factors affecting the VC – conducive enabling setting
(3) Impacts of the VC – on different spatial scales and with other VCs

Main purpose is to collect a feedback from non-local actors in **a similar way to members of the MAP**. Particular questions for elicitating stakeholders' viewpoints need to be focused on same aspects, since the answers will be **merged and reported all together**. Formulation of the questions have to respect **substantial aspects** of the value chain and **progress of the work** of each team.

Table 3: Protocol for the interactive workshop

Section and duration	Activities	Supportive materials	Expected outcomes
INTRODUCTION 15 minutes	• Welcome participants • Aim of the workshop and agenda • Recommended: workshop icebreaker	Powerpoint presentation for the workshop	Creating friendly setting for the upcoming discussion
PRESENTATION OF THE FINDINGS 45 minutes	• Explain how the study has been conducted • Present main findings from the VC analysis through desktop analysis and interviews • Recommended: flash discussion	Powerpoint presentation for the workshop (N.B. presentation must be tailored to your audience)	Create a baseline for the following group discussion Attract attention to new and non-trivial findings from the analysis
COFFEE BREAK	Short break - it is possible to take drinks and smoothly continue with the next workshop block…		
DISCUSSION IN SMALL GROUPS 45 minutes	• Split in two groups with one facilitator in each group • Open discussion and collect feedback with respect to following points: (1) Structure and functioning of the focal VC, (2) Factors affecting the VC, (3) Impacts of the VC	Printouts from the presentation Diagrams 1-4 from the VC analysis	Information that will be directly added to the main EVCA template (adding additional box to a respective section as the 'Workshop perspective')

	• Presentation for each group and common discussion		
CLOSE 5 minutes	• Next steps in the project and the MAP's events • Collect feedback on organization of the workshop	Quick online questionnaire or paper-pencil questionnaire	Collect information for improving next workshops Give stakeholders voice to critically evaluate your work

5.2. Results

Since the research design of this task was not directly piloted, teams are **encouraged to share their experience** with other partners in the research consortium!

Information from the both groups will be processed and recorded in the **template for EVCA**. Using the information from the interactive workshop and from interaction with the non-local actors the findings will be used for revising and enriching VCA. It is important to pay attention to interpretation of **differences among selected groups** of stakeholders and their viewpoints.

Information will be added in the EVCA template in respective sections using the '**copy-and-paste boxes'** (see the Fig. 4 and Fig. 5 below). It is expected that the information from the workhop will be matching the questions in the EVCA template. However, if you generate new information from the workshop that you will not be able to include a suitable section of the EVCA template, it is possible to create an appendix that will be submitted together with the filled-in template.

5.2.1 Reporting in the EVCA template

We think it is **important that we don't provide a new version of the template**, as partners will already had started filling it in for their cases. Instead, we include some suggestions to help ensure consistency and clarity in final reporting templates (for completion mid-June):

- Under Step 1: Narrative Summary, partners should <u>add an updated post-workshop summary</u>
  - o This will involve adding a new sub-section (1.3) and using the box to provide a narrative summary of their focal value chain based on all three data collection stages (desktop review, interviews, workshop)
  - o This post-workshop summary should also match final iterations of the focal value chain diagram.
  - o Partners should **copy and paste the text and box from figure 4** into the correct place in the EVCA document (i.e. after section 1.2).

- Under each of the remaining Steps, <u>partners should add rows to the reporting template</u> to report observations from the workshop, or to confirm that workshop perspecive were consistent with the existing information (see Figure 5 for example)
  - o This involves:
    - Right click on the appropriate row (normally the space for keeping track of references) then select 'Insert Rows' (either above or below to put it in the correct place.
    - Label the box *Workshop perspectives* (as in Figure 5)
  - o In the case of tables with multiple categories of information, it may be that partners find it more helpful to integrate new information directly with previous information. In this case, the workshop perspectives box be used to provide a narrative update of changes made.

1.3 Post-workshop summary

After completing the participatory workshops (following on from the desktop and interview stages) please provide an updated summary of your focal value chain. This should match your final iteration of the VC diagram

   a) **Please use the space below to provide your post-workshop summary** *(max. 1 page of text)***:**

Please use this space to keep track of the sources referred to for this section

Figure 4: Post-workshop summary (copy and paste to EVCA tempate)

2.2. Step 3 – Describe the history and trends

a) **What are the final product(s) associated with the VC?** *Think about the different value propositions associated with the product and also include information about different categories of the final product (for example, premium or discount varieties)*

Please use this space to keep track of the sources referred to for this section

Workshop perspectives

Figure 5: Example showing 'workshop perspectives' line in in EVCA template

6. Data Management and Ethics

MOVING will seek fully informed consent in advance of the data collection with stakeholders for each research activity (starting with the interviews to be conducted January – March 2022).

All personal data (whether textual or visual) will be anonymised in all outputs and reporting. Policies and specific case regions will be identifiable, but individuals will not, except research participants who wish to be identifiable.

Translation of the information sheet and informed consent form (ICF) should be provided in the relevant language for the research participants if required.

Ensure the participants have read, understood, and signed the ICF before starting data collection.

The signed forms shall be stored securely on file, according to the organisation's security rules.

Only pseudonymised processed data will be shared within the wider consortium for further analysis, writing deliverables and as inputs into WP5, 6 and 7.

Raw data will be stored in password protected folders only accessed by the organisation collecting the data and destroyed once processed.

The only archiving commitment from T4.3 is to archive the D4.3 (Report on participatory value chain analysis) on the VRE but this will be restricted to consortium members and not publicly accessible.

Slides presented by Lee-Ann Sutherland at an ethics seminar to the MOVING consortium on 18th January can be found here in the VRE.

Annex 1: Template for EVCA (desktop review & interviews)

The template follows the guidance in this document but is formatted to make it easier to complete, keep a record of your sources, and how your understanding of the VC builds over time.

The template corresponding to guidance (v6.2) is: **D4.3 Annex- Template for DT review v4.0.** This is available in the VRE template folder: https://data.d4science.net/6kEk

Annex 2: Template for VCA Diagrams

This is available in the VRE template folder: https://data.d4science.net/6kEk

The current document (**Diagram 1-4 (VC, enabling, spatial, assemblage) v1.0**) includes the following templates:

- Focal VC
- Conducive enabling setting
- Spatial analysis
- Assemblage

Annex 3: Conceptual and Analytical Framework inputs

Table 3: Analytical questions for the value chain analysis in MOVING

Framework components	Analytical questions
Practices	What are the most relevant practices carried out by the actors of the observed value chain that may affect the sustainability and the resilience of the region? What are the individual attitudes and habits that shape these practices? What is the know-what and the know-how used? How are practices assembled into the analysed value chain? How have practices been adapted to the SES's resource unit/resource system?
Value Chain	What is the importance of the relevant practices in the value chain? Which types of connections are identified for the actors within the observed value chains? Which is the degree of flexibility and diversification of the connections established by primary producers in the assembled value chain? Are the actors connected with other value chains? How did the actors change the practices when joined other connected value chains? Who are your main customers and suppliers in the value chain? What are the most important functions/practices/flows in the value chain?
Resource Units	What are the resource units the practices and the value chain rely upon?

Framework components	Analytical questions
Resource Systems	What are the resource systems the practices and the value chain rely upon (exploit, valorise)? Which of these resource systems are internal and which external to the SES? How are they geographically distributed? Are these resource systems under- or over-exploited? How can we measure their sustainability? Are exploited resource systems private, public, or collectively owned? What is the geographical distribution of resource systems involved in value creation?
Actors	Who are the relevant actors involved in the value chains? Which are the actors performing the practices? Are they individual or collective? How do actors justify the way they do their practices?
Governance	What formal and informal governance systems shape or influence the practices at the local level? Which technological pathway provides the background against which practices have developed? What are the power relations within the assembled value chain, with special regard to small players (e.g., small farmers)? Did the value chain's governance system change? If yes, how? Does the local governance system support local actors in the realization of practices? And in the creation of new practices?
Outcomes	What are the outcomes of the practices? What values (economic, social, cultural, ecological, symbolic) are generated? From which practice most of the value comes from? How does your value chain contribute to resilience and sustainability of the local SES? Which characters and which functions of the value chain can reduce the identified vulnerabilities for the SES and enhance its resilience?
Socio-economic and political setting	Which norms and formal and informal rules shape or influence the practices at the regional, national, and global level?
Related Ecosystems	What are the resource units or actors external to the local SES? Do identified assemblages connect the case-study SES with other SESs? How many different SES are tele-coupled through the value chain? Where are they located, also in relation to the observed SES? How are the values (or dis-values) distributed among the telecoupled SESs?

Highlighted the questions and related conceptual framework components external to the SES embedding the case-study value chains.

Annex 4: List of available secondary statistics

Table 3 shows a list of datasets, the majority of which were sourced from the 'Regional statistics by NUTS classification' resources on the EUROSTAT website[30]. An initial 'long list' selection was made from the 284 EUROSTAT datasets which were publicly accessible in September 2021, where the dataset name appeared relevant to the focal products of the MOVING value chains (**green** relevance flag) or where the name appeared broadly relevant to key topics for understanding value chains (**blue** relevance flag)[31]. Datasets which were available at NUTS 3 level were then identified[32]: **in total, 36 datasets were both flagged as relevant, and are available at NUTS 3 level. From these, a core selection of 29 datasets are presented following a review of the dataset content** (Table 3). **Note that each dataset may contain multiple indicators, values for several years, and breakdowns of totals into different subtotals and values (for instance, for industry sectors)**: these can be identified and extracted within the EUROSTAT Data Browser via 'Create custom dataset.' **Additionally, nine datasets from the OECD Regional Database[33] are also included in the core selection: ten were originally identified, sourced from a search of "All Themes" using the term "TL3"** (TL3 regions are equivalent to NUTS 3 areas[34])**.**

The intention of the core selection in Table 3 is to indicate datasets which are likely to be of relevance to several project partners for value chain assessments. The table indicates whether each dataset contains breakdowns that are useful for MOVING (for instance, industry sector-specific statistics), provides recommendations of useful specific indicators to calculate, and estimates the most recent year of data (although this may not apply to all regions and indicators), based on a review of information available. Collectively, these datasets contain information relevant to key contextual descriptors of regional populations, businesses, and farms; and the valorisation and outcomes of value chains (Section 3.3.4). Available breakdowns of datasets by industry sector may be particularly relevant for value chain analysis. Some datasets may also be particularly useful for identifying disadvantaged regions.

It is important to note that none of the datasets in the core selection are available at MRL scale (i.e., LAU 1 or LAU 2). It is recommended that partners firstly identify the aspect of the value chain that they are interested in (possibly matching topics and themes of datasets in the core list), and then search for relevant data published at LAU 1 or LAU 2 level by official statistical, agricultural, or administrative bodies within their nation state. If no data is found within this search, the datasets within the core list should then be

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[30] https://ec.europa.eu/eurostat/web/regions/data/database

[31] When considering the latter category, some datasets which appeared out of date, featured older industrial or NUTS classifications, or which had a highly specific focus were not selected for inclusion

[32] Identification of EUROSTAT NUTS 3-level datasets used list at https://ec.europa.eu/eurostat/web/rural-development/data (accessed 11th October 2021), datasets available in the EUROSTAT Regions and Cities Illustrated (RCI) viewer (https://ec.europa.eu/eurostat/cache/RCI/#?vis=nuts2.labourmarket&lang=en, accessed 11th October 2021) for the NUTS 3 Geographical level, other datasets where NUTS 3 is mentioned in the title.

[33] https://stats.oecd.org/Index.aspx?DataSetCode=REGION_DEMOGR

[34] https://www.oecd.org/regional/regional-statistics/geographical-definitions.htm

accessed and queried. Due to diversity in value chains across several regions, and data variability both across Europe and within datasets, more detailed information on applicable indicators within datasets, and their availability, is not provided in Table 3. For further details of the content of EUROSTAT datasets, metadata are available at the 'Explanatory texts' link, located near the top right of the window in the Data Browser; further information on the OECD datasets is also available.

The datasets which are included in Table 2 can also be used for the purposes of **benchmarking** the characteristics of regions and regional information relevant to value chains, with comparative data at the national level, in cases where the same indicators are available for NUTS 3 and nation state scales. Within EUROSTAT datasets, the 'Geopolitical entity (reporting) [geo]' attribute in the 'Define your custom dataset' window can be used to change the spatial units available, and 'Countries' and 'NUTS 1 regions' are available as categories. Within OECD NUTS3-level datasets, the 'Territory Level and Typology' option also enables countries to be selected in the 'Customise' window. Further to the data in Table 3, some further regional datasets (with data available at NUTS 2 level) are presented in Table 4, which may also be useful within national benchmarking for some topic areas.

Partners are asked to consider the following points when working with secondary quantitative data:

- **As the definitions of NUTS regions have changed over time, partners should check which NUTS 3 region(s) contain their MRL, and that this NUTS 3 region definition matches that within the dataset(s) which they are using.** To assist, correspondence tables showing the lookup between LAU areas and the NUTS 2016 definitions are provided by EUROSTAT[35]. For clarity, the NUTS definition scheme has been produced for EU member states, but some non-EU states (EFTA and candidate countries) contain similar 'statistical regions' and EUROSTAT have published regional data for Iceland, Liechtenstein, Norway, Switzerland, Montenegro, North Macedonia, Albania, Serbia, and Turkey[36].

- **It is recommended that partners use the most recent data, which is available for their regions, but also data which corresponds to key years in the development of their value chain.** For some indicators, it may be preferable to provide data for indicators as multi-year averages, rather than single year snapshots, if there is significant inter-annual variation in values.

- **Change over time in indicator values can sometimes be usefully calculated from the most recent year's data: it is recommended that this is calculated across a) the most recent ten-year period available, and b) the longest period available (if this is**

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[35] Correspondence tables available at https://ec.europa.eu/eurostat/web/nuts/local-administrative-units, the most recent validated table "Correspondence table LAU – NUTS 2016, EU-28 and EFTA / available Candidate Countries" (as of 14th October 2021) for 2019 is available at https://ec.europa.eu/eurostat/documents/345175/501971/EU-28-LAU-2019-NUTS-2016.xlsx

[36] See: Eurostat (2021) Eurostat regional yearbook: 2021 edition. Publications Office of the European Union, Luxembourg. Available at https://ec.europa.eu/eurostat/documents/3217494/13389103/KS-HA-21-001-EN-N.pdf/1358b0d3-a9fe-2869-53a0-37b59b413ddd?t=1631630029904. doi:10.2785/894358

notably longer than ten years). This is particularly important for identifying changes in demographics and key economic indicators: this is noted in the "Recommended specific indicator(s)" within Table 3 for these types of variables but change over time may also be calculable for other indicators. However, where the most recent data is relatively old (e.g., published prior to 2016), calculating trends is not recommended. Change over time in indicator values from key year(s) in the value chain development could also be beneficial.

- **When working with NUTS 3-level indicator values, partners may be able to provide an MRL-level estimate if a) the indicator is measured using a quantity, count, or a total; and b) a ratio to adjust the NUTS 3 figure to the LAU 1/LAU 2 level exists and is appropriate for the indicator**. For instance, if the percentage of the NUTS 3 population living within the MRL is known, then an adjustment could be made using this so long as the indicator is relevant to population. Population data for LAU units are available within the EUROSTAT LAU-NUTS correspondence tables, with historical population data also available (if this is consulted, use 2011 data)[37]. Where NUTS 3-level data are thematically related to agriculture or land use, ratios to adjust these could be calculated from numbers of farms or areas of land, so long as partners can source these data at the MRL and NUTS 3 scales: data on farm holdings and land areas are available in the core dataset lists for NUTS 3 areas. NUTS 3-level values which are percentages or ratios are less easily adjusted to the MRL scale.

- **Relatively disadvantaged regions can be identified using indicators such as total population (change over time can identify depopulating or 'shrinking' regions), crime rates, life expectancy, or age-adjusted mortality rates.** 'Disadvantage' or 'advantage' can be identified by comparing regional values to European averages.

- The EUROSTAT regional datasets are a core European resource for high quality data. Other key statistical resources are not available at such a 'fine grained' regional level: for example, the farm accountancy data network (FADN) public database[38] has regional data but for much larger regions than NUTS 3 areas. EUROSTAT's published indicators on sustainable development[39] are available at the country/member state level, although there is thematic alignment between themes in the list of core datasets and some sustainable development goals: sector-specific economic data, for example, is directly relevant to Goal 8 (Decent work and economic growth).

- **Please ensure that all secondary datasets used, and their spatial resolution, are cited clearly. Please also note any issues with data quality (e.g., data being marked as provisional) and any calculations which you conducted to create indicator values using the datasets.**

Table 4: EUROSTAT and OECD Dataset inventory for consultation

Note: recommended specific indicator(s) to calculate using the datasets are described in the referenced text below the table. The 'Latest year' shown is based on a single indicator, and many

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[37] https://ec.europa.eu/eurostat/web/nuts/local-administrative-units
[38] https://agridata.ec.europa.eu/extensions/FADNPublicDatabase/FADNPublicDatabase.html
[39] https://ec.europa.eu/eurostat/web/sdi/main-tables

not reflect data availability for all regions and all indicators available within the database; additionally, latest data may be estimated or provisional in nature.

Database	Relevance	Weblink	MOVING-relevant data breakdowns available?	Latest year (estimated based on single indicator)	Reference (to text below)
Area by NUTS 3 region (reg_area3)	Yes	link	No	2016	D1
Estimated soil erosion by water, by erosion level, land cover and NUTS 3 regions (source: JRC) (aei_pr_soiler)	Yes	link	It is recommended to use "[CLC2_321] Agricultural areas and natural grassland" within Nomenclature of land cover and land use (Corine Land Cover 2018) [clc18], although other definitions of this are available	2016	D2
Manure storage facilities by NUTS 3 regions (aei_fm_ms)	Yes	link	No	2010	D3
Structure of agricultural holdings by NUTS 3 regions - main indicators (ef_r_nuts)	Yes	link	Yes: Main agricultural indicators [ind_farm] contain several indicators, including data for holdings in mountain areas, crop areas and animals.	2007	D4
Population on 1 January by broad age group, sex, and NUTS 3 region (demo_r_pjanaggr3)	Yes	link	No	2020	D5
Population structure indicators by NUTS 3 region (demo_r_pjanind3)	Yes	link	No	2020	D6

Population change - Demographic balance and crude rates at regional level (NUTS 3) (demo_r_gind3)	Yes	link	No	2019	D7
Gross domestic product (GDP) at current market prices by NUTS 3 regions (nama_10r_3gdp)	Yes	link	No	2019	D8
Gross value added at basic prices by NUTS 3 regions (nama_10r_3gva)	Yes	link	Yes: Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]	2019	D9
Employment (thousand persons) by NUTS 3 regions (nama_10r_3empers)	Yes	link	Yes: Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]	2019	D10
Patent applications to the EPO by priority year by NUTS 3 regions (pat_ep_rtot)	Yes	link	No	2012	D11
Patent applications to the EPO by priority year by NUTS 3 regions, international patent classification (IPC) sections and classes (pat_ep_ripc)	Yes	link	Yes: International patent classification (IPC) [ipc] has multiple options, relevant to several sections, classes, and subclasses.	2012	D12
High-tech patent applications to the EPO by priority year by NUTS 3 regions (pat_ep_rtec)	Yes	link	Yes: International patent classification (IPC) [ipc] (High tech)	2012	D13

European Union trademark (EUTM) applications by NUTS 3 regions (ipr_ta_reg)	Yes	link	No	2016	D14
European Union trademark (EUTM) applications per billion GDP by NUTS 3 regions (ipr_ta_gdpr)	Yes	link	No	2014	D15
European Union trademark (EUTM) applications per million population by NUTS 3 regions (ipr_ta_popr)	Yes	link	No	2015	D16
Community design (CD) applications by NUTS 3 regions (ipr_da_reg)	Yes	link	No	2016	D17
Community design (CD) applications per billion GDP by NUTS 3 regions (ipr_da_gdpr)	Yes	link	No	2014	D18
Community design (CD) applications per million population by NUTS 3 regions (ipr_da_popr)	Yes	link	No	2015	D19
Community designs (CD) by NUTS 3 regions (ipr_dfa_reg)	Yes	link	No	2016	D20
Registered Community designs (RCD) by NUTS 3 regions (ipr_dr_reg)	Yes	link	No	2016	D21
Business demography and high growth enterprise by NACE Rev. 2 and NUTS 3 regions (bd_hgnace2_r3)	Yes	link	Yes: Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]	2018	D22
Business demography by size class and NUTS 3 regions (bd_size_r3)	Yes	link	Note that only "[B-S_X_K642] Industry, construction and services except insurance activities of	2018	D23

			holding companies" is available (Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]).		
Employer business demography by NACE Rev. 2 and NUTS 3 regions (bd_enace2_r3)	Yes	link	Yes: Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]	2018	D24
Employer business demography by size class and NUTS 3 regions (bd_esize_r3)	Yes	link	Note that only "[B-S_X_K642] Industry, construction and services except insurance activities of holding companies" is available (Statistical classification of economic activities in the European Community (NACE Rev. 2) [nace_r2]).	2018	D25
Number of establishments, bedrooms, and bed-places by NUTS 3 regions (1990-2011) (tour_cap_nuts3)	Yes	link	Yes: Different forms of accommodation available within Statistical classification of economic activities in the European	2011	D26

			Community (NACE Rev. 2) [nace_r2]		
National annual road freight transport by regions of loading (NUTS 3) and by group of goods (1 000 t), from 2008 onwards (road_go_na_rl3 g)	Yes	link	Yes: types of goods being transported available in Standard goods classification for transport statistics (NST 2007, 20 group) [nst07]	2020	D27
National annual road freight transport by regions of unloading (NUTS 3) and by group of goods (1 000 t), from 2008 onwards (road_go_na_ru 3g)	Yes	link	Yes: types of goods being transported available in Standard goods classification for transport statistics (NST 2007, 20 group) [nst07]	2020	D28
Crimes recorded by the police by NUTS 3 regions (crim_gen_reg)	Yes	link	No	2010	D29
Regional Business Demography: Employer enterprise demography, Large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)	Yes: by Economic sector (ISIC rev.4)	2017	D30
Regional Demography: Life Expectancy and Mortality, large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)		2019	D31
Regional Demography: Demographic Composition and Evolution, large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)		2020	D32
Regional Demography: Inter-regional Mobility, large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)		2020	D33

Regional Demography: Population by 5-year age groups, small regions TL3	Yes	link (select dataset within sidebar)		2020	D34
Regional Demography: Population density and area, large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)		2020	D35
Regional Labour: Labour indicators and small regions TL3	Yes	link (select dataset within sidebar)		2020	D36
Regional Economy: GVA by industry, large TL2 and small TL3 regions	Yes	link (select dataset within sidebar)	Yes: by Economic sector (ISIC rev4)	2019	D37
Patents by regions: Total patents by TL3 regions	Yes	link (select dataset within sidebar)	Yes: "Total patents and by technologies" can be used to add patents for "Biotechnology", "ICT", "Nanotechnology", "Medical technology", "Pharmaceuticals", "Selected environment-related technologies".	2013	D38

Recommended specific indicators:

D1 - It is recommended to use "[L0008] Land area - Total" within the Land use [land use] options: the metadata implies that this equals the land area, excluding water.

D2 - It is recommended to use "[T_HA] Tonnes per hectare" as the Unit of measure [unit] and "[TOTAL] Total" as the Level [levels], although other units of measurement and multiple levels of severity of soil erosion are available.

D3 - It is recommended to use "[I07A_EQ_Y] Holdings with manure storage facilities" within Agricultural indicator [indic_ag] and "[NR] Number" within Unit of measure [unit], although other more specific types of facilities are available, and the percentage of holdings with livestock that have manure storage facilities can also be shown.

D4 - There are a high volume of indicators which provide data on a number of characteristics of farms, including areas and ownership, farm animals, crops, and labour. Data on the specific farm types relevant to certain value chains can be extracted. It is recommended to use "[001] Total number of holdings", "[002] Total Agricultural area (AA)", "[003]

Total standard gross margin (ESU)" and "[110] Total labour force (L/01-L/06) in AWU" as key indicators within Main agricultural indicators [ind_farm].

D5 - Population change (percentage change) should be calculated if there is data available, for the "[TOTAL] Total", "[Y_LT15] Less than 15 years", "[Y15-64] From 15 to 64 years", "[Y_GE65] 65 years or over" groups in Age class [age]. Additionally, it is recommended to calculate the following indicators to illustrate the population profile, for the most recent year's data:) sex balance (deduct the percentage of the "[T] Total" who are "[F] Females" (Sex [sex]) from 50%); ii) the percentage of the total population in the three age groups noted above (Age class [age]) iii) the dependency ratio (the sum of the "[Y_LT15] Less than 15 years" and "[Y_GE65] 65 years or over", divided by "[Y15-64] From 15 to 64 years" (Age class [age]), and expressed as a percentage); iv) the old age dependency ratio ("[Y_GE65] 65 years or over" divided by "[Y15-64] From 15 to 64 years" (Age class [age]), and expressed as a percentage). It is recommended to calculate change over time in these indicators if there is data available.

D6 - There are indicators which can provide further illustrations of the population profile, beyond those calculated using "Population on 1 January by broad age group, sex and NUTS 3 region (demo_r_pjanaggr3)". It is recommended to use "[FMEDAGEPOP] Median age of population - females", "[MEDAGEPOP] Median age of population", "[MMEDAGEPOP] Median age of population - males" and "[PC_FM] Women per 100 men" (Demographic indicator [indic_de])

D7 - There are indicators which can provide further details of population trends and processes. It is recommended to use "[CNMIGRATRT] Crude rate of net migration plus statistical adjustment", "[NATGROWRT] Crude rate of natural change of population", "[GBIRTHRT] Crude birth rate", "[GDEATHRT] Crude death rate" from Demographic indicator [indic_de]. These values are expressed per 1,000 inhabitants. If there is data available, change over time should be calculated.

D8 - It is recommended to use "[MIO_EUR] Million euro" and "[EUR_HAB] Euro per inhabitant" from Unit of measure [unit] as key indicators. If there is data available, change over time should be calculated.

D9 - It is recommended to use "[MIO_EUR] Million euro" as the option in Currency [currency]. If there is data available, change over time should be calculated.

D10 - It is recommended to use "[EMP] Employed persons" within Activity and employment status [wstatus]. If there is data available, change over time should be calculated.

D11 - It is recommended that "[NR] Number" and "[P_MHAB] Per million inhabitants" are used for Unit of measure [unit].

D12 - It is recommended that "[NR] Number" and "[P_MHAB] Per million inhabitants" are used from Unit of measure [unit].

D13 - It is recommended that "[NR] Number" and "[P_MHAB] Per million inhabitants" are used from Unit of measure [unit].

D14 - Only "[NR] Number" can be selected from Unit of measure [unit].

D15 - It is recommended to select "[EUR_BGDP] Euro per billion GDP" from Unit of measure [unit].

D16 - Only "[P_MHAB] Per million inhabitants" can be selected from Unit of measure [unit].

D17 - Only "[NR] Number" can be selected from Unit of measure [unit].

D18 - It is recommended to select "[EUR_BGDP] Euro per billion GDP" from Unit of measure [unit].

D19 - Only "[P_MHAB] Per million inhabitants" can be selected from Unit of measure [unit].

D20 - Only "[NR] Number" can be selected from Unit of measure [unit].

D21 - Only "[NR] Number" can be selected from Unit of measure [unit].

D22 - There are several indicators which can provide further details on business demography. It is recommended to use "[V11910] Population of active enterprises in t - number", "[V11920] Births of enterprises in t - number", "[V11930] Deaths of enterprises in t - number", "[V16911] Employees in the population of active enterprises in t - number", "[V16921] Employees in the population of births in t - number" and "[V16931] Employees in the population of deaths in

t - number" in Economical indicator for structural business statistics [indic_sb]. If there is data available, change over time should be calculated

D23 - There are several indicators which can provide further details on business demography. It is recommended to use "[V11910] Population of active enterprises in t - number", "[V11920] Births of enterprises in t - number", "[V11930] Deaths of enterprises in t - number", "[V16911] Employees in the population of active enterprises in t - number", "[V16921] Employees in the population of births in t - number" and "[V16931] Employees in the population of deaths in t - number" in Economical indicator for structural business statistics [indic_sb]. Additionally, data for different sizes of business (by number of employees) can be extracted (Size classes in number of employees [sizeclas]). If there is data available, change over time should be calculated

D24 - There are several indicators which can provide further details on business demography. It is recommended to use "[V11910] Population of active enterprises in t - number", "[V11920] Births of enterprises in t - number", "[V11930] Deaths of enterprises in t - number", "[V16911] Employees in the population of active enterprises in t - number", "[V16921] Employees in the population of births in t - number" and "[V16931] Employees in the population of deaths in t - number" in Economical indicator for structural business statistics [indic_sb]. If there is data available, change over time should be calculated

D25 - There are several indicators which can provide further details on business demography. It is recommended to use "[V11910] Population of active enterprises in t - number", "[V11920] Births of enterprises in t - number", "[V11930] Deaths of enterprises in t - number", "[V16911] Employees in the population of active enterprises in t - number", "[V16921] Employees in the population of births in t - number" and "[V16931] Employees in the population of deaths in t - number" in Economical indicator for structural business statistics [indic_sb]. Additionally, data for different sizes of business (by number of employees) can be extracted (Size classes in number of employees [sizeclas]). If there is data available, change over time should be calculated.

D26 - It is recommended to use "[ESTBL] Establishments" and "[BEDPL] Bedplaces" within Mode of accommodation [accommod].

D27 - Only "[THS_T] Thousand tonnes" is available in Unit of measure [unit].

D28 - Only "[THS_T] Thousand tonnes" is available in Unit of measure [unit].

D29 - It is recommended to report statistics for different types of crime, within international classification of crime for statistical purposes (ICCS) [iccs].

D30 - There are several indicators which can provide further details on business demography. It is recommended to use "Number of employer firms actives", "Number of births (employer firms), "Number of deaths (employer firms)", "Number of persons employed in active enterprises (employer firms)", "Number of persons employed in newly born enterprises (employer firms)" and "Number of persons employed in newly dead enterprises (employer firms)" in Indicator. Additionally, data for different sizes of business (by number of employees) can be extracted (Employment size range option). If there is data available, change over time should be calculated

D31 - There are several indicators relevant to life expectancy and mortality rates, including gender differences. It is recommended to use "Life Expectancy at Birth" and "Age-Adjusted Mortality Rate (deaths for 1000 population)" as Indicators. If there is data available, change over time should be calculated

D32 - It is recommended to use the following indicators to illustrate the population profile, for the most recent year's data: "Dependency Ratio, Demographic (% -15 plus 65+ over population 15-64)"; "Dependency Ratio, Elderly (% 65+ over population 15-64)"; "Sex Ratio, Total Population (% population males over females)"; "Share of Elderly Population (% 65+ over total population)"; "Share of Very Elderly Population (% 80+ over total population)". If there is data available, change over time should be calculated

D33 - It is recommended to use the indicators "Net inter-regional mobility, All Persons (inflows minus outflows)" and "Net inter-regional mobility, Persons aged 15 to 29 (inflows minus outflows)". If there is data available, change over time should be calculated

D34 - Population change (percentage change) should be calculated if there is data available, for Indicators "Population, All ages", "Youth Population Group (0-14)", "Working Age Population Group (15-64)", "Old Population Group (65+)".

Additionally, it is recommended to calculate the following indicators to illustrate the population profile, for the most recent year's data: i) sex balance (Gender: deduct the percentage of the "Total" who are "Females" from 50%); ii) the percentage of the total population in the three age groups noted above; iii) the dependency ratio (the sum of the "Youth Population Group (0-14)" and "Old Population Group (65+)", divided by "Working Age Population Group (15-64)" and expressed as a percentage); iv) the old age dependency ratio ("Old Population Group (65+)" divided by "Working Age Population Group (15-64)" and expressed as a percentage). It is recommended to calculate change over time in these indicators if there is data available.

D35 - It is recommended to use the indicator "Population density (pop. per km2)"

D36 - Although there are several indicators related to employment, it is recommended to use the indicators "Employment Rate (% employment 15-64 over working age population 15-64)", "Employment Rate Gender difference, 15-64 years old (female-male)", "Unemployment Rate (% unemployed over labour force 15-64)", "Unemployment Rate Gender difference, 15-64 years old (female-male)", "Youth Unemployment Rate (% unemployment 15-24 over labour force 15-24)".

D37 - It is recommended to use "Millions National currency, constant prices, base year 2015" within Measure.

D38 - It is recommended to use indicators for "Total Patents" and "Share of region in country's total patents"

Note: these datasets have not been assessed in the detail of those noted in Table 3, or by the same criteria and method. For OECD regional datasets, the 'TL2' regional classification is equivalent to the EUROSTAT NUTS 2 for the vast majority of European countries[1].

Table 5: Additional NUTS 2-level EUROSTAT datasets, potentially of use for national benchmarking

Source: database	Topic of relevance for MOVING project	Weblink	Reference
EUROSTAT: Income of households by NUTS 2 regions (nama_10r_2hhinc)	Incomes	link	D39
OECD: Regional Well-Being: Regional income distribution and poverty	Incomes: inequality and poverty	link (select dataset within sidebar)	D40
OECD: Regional Education: Educational attainment of the population, by age group	Skills and education	link (select dataset within sidebar)	D41
EUROSTAT: Population by educational attainment level, sex, and NUTS 2 regions (%) (EDAT_LFSE_04)	Skills and education	link	D42
OECD: Regional Social and Environmental indicators: Health Access	Health	link (select dataset within sidebar)	D43
OECD: Regional Social and Environmental indicators : Environmental indicators in regions	Air quality indicators	link (select dataset within sidebar)	D44

[1] See https://stats.oecd.org/OECDStat_Metadata/ShowMetadata.ashx?Dataset=REGIONAL_ACCOUNTS_TL2 (Accessed 8th November 2021)