**HNV LINK - WP1**

**ASSESSMENT OF THE BASELINE SITUATION**

**GUIDELINE FOR LA COORDINATORS**

**FINAL VERSION**

**DELIVERABLE 1.2.2**

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HNV LINK - WP1

ASSESSMENT OF THE BASELINE SITUATION

GUIDELINE FOR LA COORDINATORS

(DELIVERABLE 1)

1 Introduction: Understanding the status and structure of this guidance note ......................... 1

2 Reminding the conceptual framing of WP1 and its deliverables ............................................ 2


2.1.1 What for? Considering what? ........................................................................................................ 2

2.1.2 For whom? ........................................................................................................................................ 3

2.1.3 Clarifying the differences and links between WP1 and WP2 from a narrative perspective ................................................................................................................................. 4

2.2 Setting the limits of the learning area ................................................................................................. 5

2.3 Understanding the HNV attributes (landscapes and semi-natural vegetation SNV) and their dynamic ........................................................................................................................................ 6

2.3.1 The agroecosystem key characteristics ......................................................................................... 6

2.3.2 Dynamic of habitats at first glance ............................................................................................... 6

2.4 Characterizing Farming systems and their dynamics in agrarian systems ....................................... 7

2.5 Rural context and wider driving forces ........................................................................................... 7

2.6 Crosscutting issue: putting actors in the analysis .............................................................................. 7

2.7 Analysing the situation: what challenges for "HNV innovation"? ................................................ 8

2.8 Reminding the formal deliverables that this note should support .................................................. 9

3 A Vercors’s story .................................................................................................................................. 11

3.1 Some elements for understanding how this story is told ................................................................. 11

3.2 Setting the scene and the plot ........................................................................................................... 13

3.2.1 Geographical background ............................................................................................................ 13

3.2.2 Biodiversity linked to agriculture: present situation and challenges ......................................... 15

3.3 A story of Vercors agriculture in its rural context for the last 60 years ............................................ 17

3.3.1 1950's: mixed farming systems - semi-subsistence farms ......................................................... 17

3.3.2 1960's-1970's: dairy specialisation and the beginning intensification ......................................... 18

THE EUROPEAN UNION HORIZON 2020
RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT N. 696391
3.3.3 1980-1990’s: milk intensification and diversification .................................................. 20
3.3.4 1990's - present: hard times for milk - agrienvironment: convenience store payments or HNV? 22
3.3.5 The failed HNV project in the area: premises and development ................................. 23

4 Analysing the narrative: a methodological outlook on the different themes of the baseline assessment ................................................................. 32

4.1 A Vercors’ story aiming at embedding HNV innovation (WP2) in a wider baseline analysis (WP1) ................................................................. 32
4.2 Agroecosystem assessment ......................................................................................... 33
4.3 Agrarian and farming system analysis ......................................................................... 35
4.4 Rural analysis and supra-local factors (policies, technologies, societal changes...) .......... 39
4.5 Actors analysis ............................................................................................................. 41

5 Conclusion: implementing the baseline assessment in the learning areas .................... 42

5.1 The baseline assessment as an adaptive and participatory process in the learning areas ..... 42

5.2 Mobilising the baseline assessment for setting the problems, proposing a vision and identifying the innovation needs ......................................................... 44

5.2.1 Setting the problems ............................................................................................ 44
5.2.2 Building and proposing an HNV vision ............................................................... 45
5.2.3 Identifying the innovation needs/gaps for the HNV vision ..................................... 46

5.3 Practical organisation of the baseline assessment in HNV-Link ................................. 47

5.3.1 First step (September 2016): plan the BA as a territorial process ......................... 48
5.3.2 Set a draft material for the BA by end November .................................................. 49
5.3.3 Display the synthetic note of the BA and peer reviewing: May 2017 ...................... 50
5.3.4 The Atlas ............................................................................................................... 51
5.3.5 The “hidden” but most important part of the BA: on the ground - feedbacks are expected ......................................................................................... 51

6 Cited literature ............................................................................................................... 53

7 List of figures, table and boxes ...................................................................................... 55

8 Appendix: the questionnaire sent to Learning areas’ coordinators ............................... 56
1 INTRODUCTION: UNDERSTANDING THE STATUS AND STRUCTURE OF
THIS GUIDANCE NOTE

This document is the final version of the approach envisaged for the implementation of WP1, taking
into account the analysis to be carried out in WP2. As stated in the project proposal, it is based on
the feedback of the LA coordinators through a questionnaire1, which itself was referring to the
concept note issued on June 2016. This concept note was focussing on the approach and issues that
should be in the assessment of the baseline situation of the learning areas (LA). It was assumed that
the "what and why" should be clarified before the "how".

This note also defined the analysis of the "baseline situation" as: "what would take place in my HNV
area without innovation specifically addressing HNV? With what consequences on farms economy
and biodiversity?".

The present guidance is based on the feedbacks from the questionnaire and on further discussions
within the project steering committee and significantly discussions amongst the consortium during
the kick-off meeting. The key points guiding the present document are the following:

1. while the guidance document focuses on the baseline assessment (WP1), its links with the
   HNV innovation analysis (WP2) should be clarified and made more understandable;
2. answers to the questionnaire made clear that (a) a lot of the effort required to carry out the
   baseline assessment depends on the degree of depth needed for the analysis (b) that
   examples should be given in order to make the task clearer;
3. given the large diversity of situations in the different learning areas, both in terms of size,
   geographical and socio-economic context, institutional settings and resources for HNV Link, a
   unique detailed methodology is not adapted. This would be a paradox to propose a top-
   down methodology for a project which approach insists on grassroots and local initiatives.
   However, this does not mean that there is no point in giving a common framework and
   milestones for the network. Indeed, this guidance note is proposing a step further in the
   "how" to implement the analysis of the baseline situation;
4. it should be emphasised that the analysis carried out in the thematic network is not of
   academic nature. The issue is to communicate within and outside LA the nature and the
   conditions for successful HNV innovations, based on sound empirical analysis able to support
   a collaborative process in the LA. The structured narrative approach is identified as a relevant
   approach in this perspective, but it needs to better explain how it can be the case;
5. the provision of the baseline assessment (BA) is not an external prerequisite to an HNV
   innovation process, undertaken by an external team: it is on the contrary a central element
   for the justification and monitoring of HNV innovation amongst local actors. Thus the
   guideline should make explicit the way the BA can be used in this perspective.

The above reasons led to the following structure of the document:

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1 See annex 1 for the content of the questionnaire.
2 HNV Link is about this specific kind of innovations: those that are able to conserve landscape features of natural value. We
   call them "HNV innovations" in order to distinguish them from other "regular innovations" that only are about economy or
   efficient resource management, regardless of biodiversity conservation. The analysis of HNV innovations is the matter of
   WP2, while the analysis of "regular innovations" and their consequences is the matter of WP1. The 4 themes used for WP2
   (markets, techniques, institutional settings, regulatory aspects) can be used for the analysis of regular innovations.
- The first section goes over the key issues presented in the June concept note, taking most of them up. This choice of taking up the concept note is not for the sake of showing a long document that would prove the value of the work. It is for external readers of the project.

- The second section consists in a narrative of a LA. This narrative illustrates the way a long-term analysis has been carried out, mobilising the different themes and issues identified in the first section. This core example forms the main discussion material of the document.

- The third section discusses the narrative from a more analytical perspective: while the narrative mobilises agroecosystem, agrarian system, actors and policy analyses altogether, all these components are revisited in order to show how they were developed and could be completed in the different contexts of the network.

- The conclusion section proposes a sum-up of the outlines of the document, putting them in an operational perspective for the LA coordinators and proposing the way it can be used in an innovation process (from the baseline assessment to the identification of problems, issues and vision for HNV). It also displays a practical timetable to the consortium for the course of the project, having in mind the deliverables (see next heading).

2 REMINDING THE CONCEPTUAL FRAMING OF WP1 AND ITS DELIVERABLES

2.1 Clarifying the perimeter and status of the assessment: what for? considering what? for whom?

2.1.1 What for? Considering what?

The relevance of WP1 was initially justified with regards to two aspects:

- "innovation" is bringing something new in a given context, through a dedicated process (innovation does not occur spontaneously, it needs arrangements and actors to happen) (Klerkx, Aarts, & Leeuwis, 2010). This context thus needs to be characterised prior to the occurrence of an existing or potential HNV innovation process (to be studied in WP2). The concept of "counterfactual situation" (without HNV innovation - but with "regular innovation") captures the idea. This counterfactual situation needs to be analysed through the lenses of the wider rural socio-economic settings, as they influence the development of agrarian system.

- In our project, this innovation process needs to be analysed through the eye of HNV issues. I.e. that we need to assess to what extent some innovations (the HNV ones) are able to conserve most existing HNV attributes or to move to another situation which is still HNV, even if it is different from the previous one. This means that the "HNV layer" (the

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3 While all respondents of the questionnaire stated that the frame concept note was clear and useful to them. There is thus no need to revise the corresponding sections.

4 For example: introducing crops in a grass agrarian system might be consistent with the conservation of a natural value, even if the agrarian system moves from a Type 2 to a Type 1.
agroecosystem and agrarian analysis) needs to be properly captured in the baseline analysis in order to sort out the HNV innovations from the other types of innovation.

Discussions in the course of the project made clear that a third key aspect should be considered, without questioning the two above points:

- the baseline assessment is a component of an HNV innovation, understood as a process taking place in a given area. It is the basis for the "enrolment" of stakeholders (including farmers) in an HNV innovation project: the BA justifies why there is an issue in conserving biodiversity in an area that otherwise would lose its value; it also gives the elements on how to address the problem. It is not an academic exercise, but an analysis to be mobilised by the HNV innovation catalysts when interacting with other actors. In this perspective, the BA has three functions: (a) set the problem and making it clear for other actors (b) feed an alternative vision based on HNV conservation (c) propose a strategic analysis on how to initiate an HNV innovation.

Taking into consideration what has been said above, the assessment of the baseline situation should consider four strands of analysis:

1. The agroecosystem assessment consisting of a classic ecological site description of the LA encompassing weather, geology, soils, hydrology, biotic component, land use and land cover types. This point addresses the ecological characterisation of HNV area and farmland.

2. The socio-economic aspects of the LA farming systems (HNV and non HNV) - essentially summarising agricultural census data from region, farm enterprises, crop types, livestock types and densities, farm numbers, size etc. A comprehensive level of analysis may consider the agrarian system as a whole (i.e. capturing the landscape management with regards to diversity in farm types. Essentially integrating knowledge of the overall ecology of the LA (step 1) with the farming system to present a more in depth picture of the entire agroecosystem).

3. The wider rural socio-economic setting of area - populations, demographics, labour, capital. All based on existing available information. We should be able to carry out multivariate analysis of this to see if we have broadly similar settings in LAs or are they all unique in terms of their setting.

4. The institutional framework, governance and role of different categories of actors influencing directly or indirectly the development of the agrarian system. In WP1, the analysis mostly is about the current, "business as usual" actors’ framework and projects

2.1.2 For whom?

The analysis aims at two categories of actors:

- the ones involved in the LA areas analysis. The assessment should give them a common understanding of the trends at play in their area and thus, a better understanding of what is at play for innovation. In this regards, the assessment is for "internal use", with the above provision for its strategic function (see 2.1.1).

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5 We assume that the threats on HNV systems is the most common situation and that those threats are then caused by dominant actors that influence the development of farming systems in the wrong direction (from an HNV perspective). This influence takes the form of technical, marketing, regulatory and institutional innovations - but not HNV ones. WP1 is about explaining this and the consequences.
- the wider targets of HNV-LINK. The assessment should give them an overall understanding of the LA setting in order to understand the context in which the different types of innovations studied in WP2 take place. In this regards, it is for "external use".

It should thus be clear that the format and status of the assessment is not one of a research report or production. It is mainly a communication support, based on existing fields of research. If we put this communication dimension in the process of HNV-LINK, it helps to allocate our effort:

- for internal use, on the collection of relevant and needed data necessary for the understanding of the situation and the management of the innovation process in the LA. To be clear there should be no need for long exhaustive reports provided that actors involved share a common understanding of the issues to be addressed and are able to work on a proposed vision.
- for external use, we should think in terms of "fact sheets" adopting a common structure for a comparative analysis (see the "atlas" output of the project). This means that synthesis and communication should guide the display of information. To give an idea at this early stage, most analysis should capture the essence of the LA in ± 6 pages. Which requires a lot of time ("sorry to be long, I had no time to be short" to quote Blaise Pascal).

Adopting a visually illustrated narrative approach explaining how the dominant development process has been going against HNV conservation — or is threatening its conservation — should help in both communicating to the outside world and to select the relevant data for this purpose. The core section of this guidance document aims at illustrating this. Practically, it gives a template for the learning areas.

2.1.3 Clarifying the differences and links between WP1 and WP2 from a narrative perspective

We may pursue on this narrative line. The whole issue of HNV Link as a project is to be able to tell the outside world what are the necessary innovations for HNV conservation (the above "HNV innovations"), and what they should consist of. The target audience should be able to understand "in this context, I can mobilise these resources in order to reach a goal of HNV conservation". In other words how can I engage in a process supporting HNV conservation? (and why?). This narrative/story telling approach has strong theoretical background; it has proven to be one of the best forms of communication.

This process and communication perspective logically leads to a narrative approach. A narrative is basically telling how we have moved from an initial situation to another final one. It stands on the relationship between a causal chain of selected factors, that can be of different natures (climate; actors; the "Market"; etc.), which is adapted to our pluridisciplinary approach. The need to select the factors that we need to mobilise in the narrative is very useful when one is confronted to a wide range of data. "Tell the story first, and then focus on what you need to make it consistent".

The stories that we will have to tell will address:

a) What is the present situation, including its current developments, and what are the problems arising from this situation. Analysis of prevailing/conventional system and how dominant actors

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6 A template will be displayed.  
7 We don't make any conceptual difference between narrative and story. The former sounds more theoretical and the latter more familiar, but for our use, it can be either one of the other.
implementing regular innovations (introduce new methods, products, ideas — often developed outside LA — without taking into account the HNV context) is part of the analysis. This forms the background of the story. The starting point might be 60 years ago (after WWII) or more recent, in any case a certain breadth of time is useful to show the development. The development of landscapes is a good piece of narration to properly set the scene.

b) How a group of actors (including ourselves in some cases) set the problem is the starting point for our story. How and why the HNV case (or related conservation of traditional farming systems... there are possibly different entry points in the story) is made visible is very important to understand. But this analysis should not only show the problems, but also lead to a vision for HNV and the way it can be addressed in the local context.

c) the development of the story will depend on the situation of each LA. We may identify four steps\(^8\), corresponding to different situations:

- LA with no HNV innovation yet (e.g. La Vera): the story will mainly be a future fiction and/or the telling of how actors organised during the course of HNV Link.
- LA in which it is just starting and/or is planned: the story will be about the critical factors that made the HNV innovation possible, what have been challenging.
- LA which are work in progress (e.g. Causses Cévennes): the story will be about what initiated the project (as in the previous situation), what are the current developments and what are the difficulties and challenges.
- LA in which there is a success story to tell in terms of HNV innovation, with existing evidence (e.g. the famous Burrens): the story will then will have come to some point of accomplishment, if not complete.

d) the point to where our story has led us and/or what are the current perspectives.

Having proposed this common framework, every story will unique to each LA.

This structure can be used for clarifying the relative roles of WP1 and WP2. WP1 is about the background of the story and a possible alternative way (a), while WP2 is about the story itself (b, c and d). WP1 might be mobilised in d, as a reference: see what have changed our HNV innovation. In this perspective, the BA also supports different themes for monitoring HNV innovation: monitor environmental outputs, but also farming systems, organisational and techniques changes. As for a social process taking place on LA, it is very important to be able to say to the "internal" and "external" actors: "see what we have done since our HNV project! We can tell you it has delivered because our baseline assessment show that otherwise we would have been going through an [abandonment]/[intensification]/[abandonment+intensification] process". Again, the success of the Burren case — and more generally of successful result based operations (European Commission, 2015) — strongly lies on such story.

Of course, WP3 is also strongly concerned with this communication approach.

2.2 Setting the limits of the learning area

When speaking of LA, setting the limits of the area is the critical first step. While the size of each LA may greatly vary across our network, different criteria must be considered altogether:

\(^8\) Inspired from a mix of "translation sociology" and project management.
- the agro-ecological consistency: the agroecosystem criteria call for a relatively defineable area in terms of soils, climate, relief, ... It does not mean that we should think in terms of uniform habitat\(^9\) (on the contrary), but the considered ones should be part of one defendable agro-ecological system\(^10\).
- the agrarian consistency: a (relatively) consistent distribution of farm types, sharing the same broad agroecosystem context.
- the rural consistency: (relatively) consistent in terms of rural communities, of the influence of main cities, of ways of life and social demand for different ecosystem services...
- the institutional layer: the administrative and/or networking of local cooperations boundaries are part of the "setting the limits" exercise. Ideally, with regards of our enterprise, the "innovative area" (i.e. the one in which the innovation project is identified, which thus sets an institutional layer) should be smaller part of the whole area.
- the "data layer": the LA can simply be defined on the fact that we have data here, and not elsewhere.

This document is not the right place to fully address the details of setting the limits, but the above criteria are here to clarify the way it could be done in each LA. A balance should be found between the relevance of the area (its limits should delineate a consistent system) and the practicability of the area, not to mention, in some cases, the fact that the area is a given for institutional reasons for example.

### 2.3 Understanding the HNV attributes (landscapes and semi-natural vegetation SNV) and their dynamic

#### 2.3.1 The agroecosystem key characteristics

The analysis of the HNV characteristics is based on the key soil, climate and relief conditions. It is the basis of the understanding of the different habitats of which the LA consists. A transect approach is a good way to represent the ecological structure of the LA, representing the distribution of the different types of agroecological units (from a farming perspective).

We defend the idea that the "habitat" is the relevant entry in the LA from the agroecological point of view (instead of the species approach), as it is easier to get data on it and to represent it. This does not mean that data on species distribution and dynamic should not be used.

The HNV perspective puts the emphasis on the analysis of Semi-natural vegetation and other forms of semi-natural landscape features (the *saltus*) in the different agroecological units.

Without developing any further in this document, transects and agroecological units analysis will be good support for this piece of work.

#### 2.3.2 Dynamic of habitats at first glance

By experience, a lot of effort is put on a detailed spatial analysis of habitats, etc. with little understanding of what takes place in the longer term (typically a generation, i.e. 40 years, or more when possible). This "long view" and past dynamic perspective is the one relevant for the

\(^9\) Not in the N2000 meaning, but in the wider understanding of the notion-broader habitat description.

\(^10\) Not necessarily consistent but defineable; the agroecosystem setting referred to above can be made up of a number of different agroecosystems with different soil types if that is appropriate for a given learning area. A defendable agroecological system might be comprised of different upland and lowland areas that are managed seasonally (are quite different from climate and soils perspective) but are interlinked in the broader agroecological system with transfer of nutrients and energy within the entire system.
understanding of what is at play and stake in the innovation process, including from this HNV perspective. What is lost in precision is gained in accuracy. And all the more, we can argue that "telling a story" is more relevant in the case of analysing an innovation process (which is a dynamic) and clearly more attractive and rallying for the targets of HNV Link.

The dynamic of habitats will fall in three main types, fully described in (Opperman, Beaufoy, & Jones, 2012):

- abandonment of HNV land (i.e. semi-natural vegetation or low-input and mosaic crop systems);
- intensification of HNV land (i.e. through increased used of inputs and/or management practices such as early mowing or overgrazing);
- a combination of intensification in the best areas and abandonment in the less favourable ones.

Those different dynamics are linked with contrasted "social value" of HNV innovation: while halting land abandonment will be seen as a consensual objective — while quite difficult to address in reality — changing the course of land intensification is much more difficult to defend.

2.4 Characterizing Farming systems and their dynamics in agrarian systems
The same "dynamic" and long term vision should guide the socio-economic analysis of the farming and agrarian systems of the LA.

There are different ways of characterizing farming systems in an area. The approach should be holistic as to explain both

- the way different farming systems in the area use the land and thus impact (positively or negatively) on habitat management (the HNV farmland)
- the way the different farming systems evolve, in terms of socio-economy.

Without detailing in this introductory section, the analysis should show how the different types of farming systems have evolved and are evolving with respect to different production factors listed above. The characterisation of the degree to which those farming systems are HNV (or not) is a needed outcome of the analysis.

A wider and holistic analysis of the dynamics at play for farming systems can be carried out from an agrarian system analysis. This level of analysis addresses the collective and common issues across individual farming systems: land access, technical development, etc.

2.5 Rural context and wider driving forces
Identifying the driving forces behind the development of farming systems is needed to understand what is at stake for innovation (in the way that innovation should address the negative impacts of those driving forces). The driving forces at play are taking place at different levels.

Section 4.4 - Rural analysis and supra-local factors (policies, technologies, societal changes...).

2.6 Crosscutting issue: putting actors in the analysis
A general comment about the analysis of the socio-dynamic of the LA. We insist here on the fact that innovation (HNV and regular) is understood as a social process in a given context, and the baseline
analysis should centrally offer an understanding of the social factors behind the farms' development and the driving forces behind it. In other words, it is crucial to insist on social organisation behind farmers' communities and behind driving forces (when relevant). For example, the advisory and credit systems are to be described taking into account the values and actors' interests of those who are running them (e.g. influencing farmers unions).

This comment is made in order to avoid pure "no actor" factual analysis that are frequently mobilised in this kind of study that would miss the sociological dimension of the process.

2.7 Analysing the situation: what challenges for "HNV innovation"?
This section is the focus of the whole analysis in WP1. It should guide all the efforts of investigation listed above and justify the analysis carried on in WP2.

Considering the issue of "HNV innovation" (i.e. innovation for the conservation of HNV attribute), the analysis of the baseline situation should address three questions:

- With regards to the driving forces, **what is the current trend in the LA?** This question should mainly focus on the farming systems, in terms of land use, structure and functioning. In broad terms, the fate of HNV farming systems currently is a combination of intensification and land abandonment. But those trends need to be further qualified and understood in terms of dynamics and role of driving forces.

- What **consequences for HNV attributes?** This issue is derived from the above point and could be addressed through the analysis of the consequences of the development of farming systems on land use and its impacts on habitats and their management. This question should address the status of HNV area in the LA: to what extent is it under serious threat?

- What **HNV alternative vision can we bring?** This question centrally lies on an explicit description of an ecological state, in relationship with forms of landscape. If we retain the idea of "result based approach", the HNV vision should primarily address a desirable HNV landscape, visually understandable.

- What **does HNV innovation need to address?** This question should particularly address the way changes in the overall management of the development of agriculture in the LA should be designed in order to achieve the conservation of HNV attribute. The issue of local rewards for such conservation - there is no such projects if there is no local rally for it to take place - seems a relevant angle of attack for this issue. This question should be treated under the headings of the four themes of WP2.

Through the case of Vercors, the story forming the following pages how all the elements presented in this section can be exemplified. Note that mobilising a narrative approach is not reinventing the wheel, it is acknowledged method to account for complex process in general, and in the field of innovation analysis in particular:

*For mapping the dynamics and a structured analysis of innovation system interaction at the micro [= site] level, Spielman et al. (2009) indicate that innovation history analysis focusing on important events is a useful method […], which has also been applied in ‘main- stream’ innovation systems analysis*
where it is referred to as innovation journey analysis (Van de Ven et al., 1999). (Klerlx et al. 2010)

and

From this review on innovation agency, it has become clear that shaping an innovation involves ‘selling a good story’ (e.g. visions, discourse), told by the right people (with conviction, credibility, power), at the right time, in the right place, and to the right people (acquiring complementary resources, building and capitalizing upon momentum and using windows of opportunity (De Lauwere et al., 2006; Aarts et al., 2007; Swan et al., 2007a; Horlings, 2008). (Klerlx et al. op.cit.)

2.8 Reminding the formal deliverables that this note should support

The above framing is aimed at providing a better understanding of the different deliverables in WP1.

Formally, WP1 consists in the following list of such deliverables (with months of delivery):

- D.1.1.4: V0 guideline note for LA coordinators (T+ 4 months) = the preliminary version of the present document
- D.1.2.2: V1 operational assessment guideline (T+ 5 months) = the present document, revising the V0 version
- D.1.3.1: Collection of baseline assessments for each LA, taking the form of synthetic notes (T+ 14 months)
- D.1.4.3: Typology analysis, taking the form of a synthetic document comparing the different geographical LA at the EU level ("Atlas") (T+ 18 months)
- D.1.5: Short notes and interviews for dissemination (T+ 23 months)

The list of deliverables shows a progress from the provision of on-site baseline assessments, primarily for "internal use" in the course of HNV innovation processes in LA to wider communication to potential users of the BA outside the LA and further.

As for the internal use of the baseline assessments, one should distinguish between the material needed for the provision of useful meetings, workshops and all types of inclusive and participatory processes in each particular LA. This material is to be displayed in each national language and does not need to take the form of structured report: efficient powerpoint presentations, figures and maps used for discussions during meeting are better than formal reports in this perspective. It is the responsibility of each LA coordinator to make the best use of the existing material and the one to be collected.

However, the disseminating nature of HNV Link, in and outside the consortium, calls for formalised deliverables that can be shared, using English. The synthetic notes of D.1.3.1 are the visible outputs in this perspective. The following section of Vercor’s story proposes a detailed example of how to formally display those synthetic notes. We assume that this effort of formalisation will not only be for the sake of internal and external dissemination, but will also help LA coordinators to go to the heart of what is at stake in their area.

D.1.4.3. the "Atlas" will consist in the comparative and meta-analysis of the BA of the 10 learning areas. The idea is to position each story in a wider perspective, allowing the understanding of structuring factors that might not be visible from a grassroot perspective (e.g. the influence of the wider agrarian system). In setting a common conceptual structure and approach, the present
document (D.1.2.2) is meant to facilitate the future comparison.

D.1.5. is a reflexive approach: the baseline assessment is not only for the provision of LA; it is a further component of any future HNV innovation project. In this perspective, the BA should be innovative in itself and feedbacks from "users" of such baseline assessments — LA coordinators as "implementers" of the method, local stakeholders as "targets" of the method — are useful in this perspective. What lessons can we learn from this exercise for future similar approaches?
3 A VERCORS'S STORY

3.1 Some elements for understanding how this story is told

The story developed in the following pages is based on the following elements:

- the baseline situation is described thanks to an extensive study performed by a French student in 2010. This student, Camille Doumas, led an agrarian system study for her master internship under the supervision of a steering committee to which I participated. This explains both the existence of many synthetic information and data collected by Camille — with the view of explaining a long term dynamic, accordingly to the agrarian system analysis — and the easiness to make use of them (steering a student is a good way to get the information you want in the way you want). Other relevant sources of information have been mobilised, provided by regional agricultural institute (SUACI-Alpes du Nord) which conducted an extensive survey on pastures management that has been paramount for the characterisation of HNV challenges in the area. The Parc Naturel Régional du Vercors (PNRV)\textsuperscript{11}, the Ligue de Protection des Oiseaux and other institutional sources of data contributed to the baseline assessment.

- the actor analysis re HNV innovation is based on our own experience, based on a (failed) tentative to set an HNV project in the area, from 2009 to 2013. This experience took the form of a group of actors around the PNRV, mobilised in order to propose an HNV project for the PNR for a rural development scheme. Discussions around members of this group gave insights about how to position this HNV project towards other actors and other trends (thus giving an analysis of the strategic background). While "innovation" was not an explicit word of the project, it was clearly underlying the overall approach. The story told in the following pages is thus told under our particular perspective, the one of a catalyst aiming at introducing HNV management in a given area, with its peculiar context. Note that the above mentioned study (Camille Doumas' one) had been commissioned in the frame of the project, with seed money from an existing Leader program. We assume that while the project did not come to its end, its story is relevant for the sake of this methodological document.

In the following pages, we call Vercors, our study area, a Learning Area (LA) for obvious reasons of easing transposition to HNV-Link.

The reader must have in mind that the following pages are written in order to illustrate the methodological feasibility and interest of a narrative/story for HNV-Link, at the crossing of WP1, WP2 and in a way WP3. In this regard, the detailed technical content of the story is second compared to its rationale and structure. But nevertheless we assume that this narrative approach is a good way to communicate towards you and towards a wider audience. If you catch (and like?) the story of Vercors, it is likely that you will be able to tell you own to others.

Last but not least: the following pages also have the formal function of showing practically what can be the form of a synthetic note for each LA. The idea is not to give a strict pattern to follow, but to show how to built a timeline, how to mobilise the structuring four themes of analysis and how to display visual outcomes. All this in around 20 pages.

\textsuperscript{11} In fact, the project was designed for a sub-sector of the PNRV, which is much larger than the area described in the following pages. But this focus does not change the nature of the story.
### 3.2 Setting the scene and the plot

#### 3.2.1 Geographical background

The area consists of a high massif supported by scenic vertical cliffs, making it hard to reach. During the last WWII, it used to be an area where French *resistants* could hide themselves. However, the large city of Grenoble (160,000 inhabitants; 684,000 in the total urban area - present data) is quite close but is expanding in the lower valleys. It is located in the *Département Isère*\(^\text{12}\).

![Image of Vercors seen from Grenoble](image)

**Figure 1: The Vercors seen from Grenoble**

The high altitude plateau (c. 1000 m) forming our virtual LA is surrounded by mountainous slopes (reaching 2000 m). It is a typical synclinal with three main types of soils:

- in the flat valley bottom, we find humid and deep soils, favorable for (permanent) grass production and, when local relief conditions allow, for cereal cultivation;

- the hills surrounding this valley bottom are sandy/gravely, favorable for grass production and cereals as well. The local relief conditions are critical for the landuse;

- the mountain slopes bear limestone soils, mostly under permanent pasture use/forest - depending on sun exposure and possibly crops when favourable. High altitude pastures (out of the figure) are used as common pastures during summer (*alpages*). Those *alpages* are mainly used by farmers outside the LA; they thus won’t be part of the story although they indeed are of high natural value.

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\(^{12}\) *Isère* is the name of the département, “département” being the NUTS3 division in France.
Zone 1 – Vallée synclinale de Lans

Bas de versant

Ouest

Fond de vallée humide

Collines douces morainiques

All – alluvions fluvio-glaciaires, Pp-prairies permanentes tauchées, Pt-prairies permanentes pâtrurées, Pt-prairies temporaires, C-céréales (triticale)

Figure 2: agricultural landuse across different agro-ecological units (from Doumas, 2010)

Climate shows a relatively even rain distribution through the year, ranging between 90 mm (summer) and 120 mm (winter). Temperatures range between -5°C and 10°C for minimum means and 3°C and 20°C for maximum means. Winters are snowy and long; the vegetation period is concentrated around summer.

In brief, it is a typical humid medium mountain case, relatively favourable for a form of grass intensification during a limited period of vegetation.
The size of our LA is 20,000 ha, but farmland occupies only 1/5 of it (4,000 ha). Forest is the main landuse. The overall population can be estimated at 12,000 permanent inhabitants, with huge variation during touristic periods (winter and summer). Main cities reach 4,000 inhabitants.

The LA is a part of the Parc Naturel Régional du Vercors, created in 1970. The purpose of the PNRV was — and still is — to conciliate nature conservation and urban, touristic and agricultural development, considering the growing population of Grenoble.

### 3.2.2 Biodiversity linked to agriculture: present situation and challenges

Generally speaking, the farmed area is biodiversity rich\(^{13}\). Floral richness is mostly found in extensive permanent grassland.

Different types of grassland habitats can be found:

- humid grassland, close to the river streams in valley bottom. These grasslands are extremely biodiversity rich when properly managed (i.e. not drained, late hay cutting, no fertilisation). Amphibians, crustaceans and nesting birds (corncrake, *Crex crex*) can be found, but the latter has virtually disappeared (since ?).
- mesophile grasslands, on sandy/gravelly soils. Floral species such as XX and ZZ can be found\(^{14}\). A wide range of species.
- dry grassland on slopes, on oligotrophic soils. Such grasslands are rich for orchids.
- alpage in higher altitudes, with a great floristic and insect diversity.

Without detailing, the main management factors explaining the high/poor quality of permanent grasslands are: fertilisation and the date of grass/hay cutting, the two being frequently correlated (the sooner the grass harvest, the higher the N-fertilising levels).

Cropped areas can also contribute to a biodiversity richness (birds and small mammals), but in present days they are mostly managed on intensive pattern (fertilisers and pesticides).

As a whole, the whole biodiversity richness of the area can be understood from a landscape ecology perspective. While the quality of each individual habitat, and especially grassland habitats forms the basis of the floral diversity (according to landscape ecology theory, one speak of "biodiversity α richness"), the overall animal richness (insects, small mammals at the bottom of the food pyramid; birds and larger mammals at the top) depends on the variety of rich habitats and their combination at the landscape level (one speak of biodiversity β\(^{15}\)). In brief, the maximal biodiversity richness will be reached when a variety and combination of biodiverse grasslands (the backbone of HNV attributes in Vercors) and, potentially, extensive crop areas will be found in the landscape. That is the challenge and the plot of the story.

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\(^{13}\) Biodiversity found is forested and rocky habitats is out of our scope of analysis, but contribute to the overall nature value of the area.

\(^{14}\) I don’t have the data at hand and they are not fully needed for this "demonstration" exercise, but they exist.

\(^{15}\) while biodiversity β will be analysed at the intermediary level of ecotones.
Figure 3: the different agroecosystemic units (after Doumas)
3.3 A story of Vercors agriculture in its rural context for the last 60 years

3.3.1 1950's: mixed farming systems - semi-subsistence farms

Our story starts in the 1950's. At this time, most farms of our LA are mainly subsistence farms, with surpluses sold on local markets under the form of cheese. The blue cheese produced in the area, Bleu de Sassenage or Bleu du Vercors, is mostly for regional market. It is not renowned as other cheeses of the same region (e.g. Beaufort or Tomme des Bauges).

Farming systems are based on mixed dairy systems. Cow breed is the local Villarde, yielding around 1,500 l/year. Animals in farms also consisted in goats and pigs. Crops - cereals - are cultivated for the need of the family and straw for the manure, while fodder crops (legumes,...) are for the animals. Interviews led by Doumas with old farmers, stats and photos show a higher share of crops in the landscape.

![Graph showing land use in the 1950s](image)

**Figure 4: land use in the 1950’s (Doumas): half permanent pastures, half crops/legumes**

[Ppfauche+pâture: permanent grassland for mowing and grazing; Pt: temporary grassland (including legumes); Blé: wheat; Orge: barley; Avoine: oat; Pommes de terre: potatoes; Pp parcs: Permanent grassland in parcs [7]]

It should be noted that those crops were extensively managed. Permanent pastures got no fertiliser and the period of harvest, mainly by hand, was long.

![Landscape structure in the 1950s](image)

**Figure 5: landscape structure in the 1950's (Doumas)**
Figure 6: landscape in 1920: a mosaic of small fields in the flat valley and hills - wood and pastures on the slopes. This is not quite visible on the photo, but clearing grassland can be found in the forested slopes and the limit between forest and open agricultural landscape is used for pastures, forming a rich ecotone. Top of mountains is for pastoral use.

The system functioned under the complementarity of saltus and ager for fertility transfers. According to Andersen’s typology, it was a typical Type 2 HNV agrarian system.

Local interviews allowed the construction of a farm typology. The main factor for differentiation was the size of the farm and the nature of animal power (cow for small farms under 10 ha, horse for medium and large farms, up to 20 ha). But the dairy production system in itself was similar across farms. Production was low, economic return modest — that was the rural way of living until the turn of the 1950’s.

Without having detailed data, one can strongly assume that the area was HNV: large share of "unimproved" permanent grassland, organic crops (before the label), late mowing and extensive use of space, forming numerous ecotones.

3.3.2 1960’s-1970’s: dairy specialisation and the beginning intensification

The particular story of the Vercors takes place in the wider French and Western European context of post WWII. As for agriculture, the Marshall’s plan was a first step towards modernisation with the supply of tractors (the 25 hp Ford or Massey); in France, the modernisation laws of 1961-1962 are widely acknowledged as founding and organising the research, extension, credit and professional representation of French agricultural development. In many ways, these laws are still forming the frame and mindset of agricultural development, and in our particular perspective, innovation. INRA, created in 1946 was clearly dedicated to the promotion of modern techniques, seeds, breeds... the issue was to catch up with countries with more developed agriculture such as Germany, the UK or Denmark and the Netherlands.

In Vercors, like almost everywhere, innovation took the form of adopting new techniques designed and promoted by INRA. At first place, in the 1960’s, modernisation went through the adoption of
tractors (replacing horses) and the new Montbéliarde breed (c. 2,000/2,500 l milk/year), more productive than the Villarde, which animal power quality was no longer important. In 1968, 3/4 of cows were Montbéliarde and that Villarde virtually disappeared during the following decade. In the 1960's, such changes have impact on farm productivity, but mostly on the quality of life for farmers. Tractors ease the burden for hay harvest and crop cultivation. Doumas notes that more "difficult" land (i.e. stony hills or steep slopes) tend to be abandoned when not machineable, all the more that new techniques bring more production on less land.

Figure 7: Montbéliarde has been the dominant dairy breed since the 1960's onwards (Photo: C.Doumas)

In the 1970's, this trend goes on with more efficient mowing machinery (including barn drying) and on going genetic improvement. The use of fertilisers seems to get generalised during this 1970's decade. Cows productivity reaches 4,000 l/y, due to higher yields in fodder cereals (genetic and fertilisers) and the start in the use of soya cake. In a word, intensification starts during this decade.

Putting these trends in a wider picture lead to the following points:

- firstly, this modernisation trend looks so "natural" that is seems that new techniques felt from the sky, while farmers just had to grab them. In fact, if it was indeed logical in the wider economic context (see following bullet points), it also required efforts from administrations (the local bodies of ministry of agriculture planned modernisation), extension services and credit services. All these changes were costly, and not all farmers could engage and succeed. This top down innovation came from the will of national and regional actors, and this will met the one of many farmers but it required articles in professional press, meetings in villages and leadership of local farmers.

- from a market perspective, the dairy specialisation of Vercors should be put in a wider frame. This comes from a double movement: on the one hand, demand for milk increased with economic growth and associated consumption patterns. Vercors specialised in "regular" milk for regional industries (i.e. not for high quality cheese like other similar regions). This was made possible with the development of new roads and refrigerated trucks and all cold-chain, which have been a technological revolution across Europe. But this milk specialisation is also eased by the fact that cereals are no longer useful in the Vercors' agrarian system, as they can be produced elsewhere, at lower price, and easily trucked as well. The remote development of Bassin Parisien also explains the one of Vercors.
- from a rural perspective, the development of a strong dairy sector could also be placed in a wider frame. The development of Grenoble as a city and of the Northern Alps as a touristic destination (under a form of touristic industry) are to be considered. 1968 Winter Olympic Games in Grenoble gave an impetus for the sector and the as a whole, the city gained 50,000 inhabitants between 1954 and 1975 (from 116,000 to 165,000 for the sole city — since, the expansion gained in its periphery). Firstly, this development offered opportunities for those farmers who opted to leave. The social impact of the farms development (less farms at the end) was smoothed, if not desired, by and for this local development. Secondly, Doumas notes that farms took benefit of this local development for diversification. Time freed by mechanisation allowed touristic activities and/or direct marketing. However, a side effect of this movement had been an increase in the price of the land. This was benefit for land owners (farmers in majority), but not for active farmers.

In brief, for most local and regional actors, dairy specialisation the way it went was understandably quite consistent with the wider development of the area. In the overall social context, it is unlikely that the consequences on biodiversity have been identified as critical. Indeed, the major facts were the abandonment of most difficult land, drainage of wetland and an overall intensification of grassland and crops. Impacts on overall biodiversity are not documented.

3.3.3 1980-1990's: milk intensification and diversification

The two following decades are marked by two trends:

- on the one hand, the continuation of dairy development towards bigger and more intensive farms. While mechanisation and increase in size of barns goes on, the major technological innovation taking place in the early 1990's is grass wrapping. Promoted by technical advisors, required for the development plan of young farmers claiming for public subsidies, this technique is adapted for the setting of safe and energy-rich grass stocks for growing dairy flocks. During the period, the average yearly production per cow moves from 4,000 to 6,000 l at the end of the 1990's. Milk production gets concentrated in fewer, much larger farms adopting milking parlours and duckboard (liquid manure - slurry - instead of straw-manure). Those farms are best placed to get the better lands of the area. Those productive dairy farmers are able to influence land allocation in the semi-public (State and farmers unions) land board set by French law. Those boards, set at the département level, allocating land freed for renting (not for selling), are notoriously controlled by local unionists in favour of (young) farmers engaging on this kind of development pattern. The main argument is that land is needed to cover the high investments costs; otherwise they would bankrupt. Similar state-union commissions allocate milk quotas\(^\text{16}\), with the same vision.

In parallel, communal milk dairy cooperatives gather into a larger one, looking for scale economy. Milk industries also begin to collect in the area.

\(^{16}\) France was the only (?) member state to have an administrative milk quota management.
Figure 8: grass wrapping has become the main fodder technique for larger dairy farms in the 1990's

However, this dairy development is not accessible for all the farmers of the area. The quotas in 1984 and the continuous decline in milk price on the period make that some farmers are not able to engage in this intensification/size increase and investment-demanding path.

In this context, two alternative strategies emerge:

- one is the rediscovery of the value of the local cheese, Bleu de Sassenage, which PDO is gained in 1994 due to the combine efforts of local farmers' association and PNRV. This market innovation is mainly developed in farm-processing workshops for direct selling, while the cooperative markets a share of the production - but the value added is rather low compared to other Alpine cheeses. The requirements for production methods allow the use of wrapped grass, provided that it is product in the area of origin.

Figure 9: the local Bleu de Vercors-Sassenage PDO is a market innovation rediscovering a traditional product - but allowing modern techniques impacting biodiversity
- another rising strategy for farmers not able to engage into the quantitative milk path is the development of beef production: young males are sold at the age of 8 months, while heifers are finished with the use of on-farm produced triticale. These farms are able to make use of less productive lands that tended to be neglected by intensive dairy farmers, getting access to them with lower prices (purchasing or renting?). Those farms increase their UAA but with relatively less investments for the rest, except for barns.

In terms of biodiversity - HNV attributes, this period has a major impact. Grassland intensification takes place at this time and the impact of wrapped grass is major while dairy farmers look for an early maximum grass production, implying both N fertilisation and early harvest (in May). This process mainly takes place in the flat areas of the valley bottom and requires drainage detrimental for the quality of wetlands. Meanwhile, the "meat strategy" developed by some farms does not prevent the abandonment of the most remote and difficult low-productive grassland that are turning to shrubland in plots. As for the rest of the story, impact on species is poorly documented, but interview with an ornithologist suggests that corncrake started its decline during this period.

3.3.4 1990's - present: hard times for milk - agrienvironment: convenience store payments or HNV?

Doumas' study of 2011 shows that at this period (that we will assume as being the most present picture we have), dairy systems represent the bulk of the agriculture economy of the area. They manage 75% of land — with a diversity of farm types, ranging from the relatively extensive farming system to intensive ones. Dairy farmers have the larger farms and they contribute to the bulk of economy in terms of gross product and, through the inputs, services and equipment they use, in terms of economic flows. The same study also shows that the potential income of those farming system is quite correct, but additional costs on land and capital interest may fragilise the farm economy in some cases.

![Figure 10: distribution of UAA managed by different farm types characterised by Doumas (not detailed in this document). VLx are different types of dairy systems — in their diversity they represent more than 3/4 of UAA; VAy are two types of beef systems; CH: goat - 70 farms were found in the LA in 2010](image)

The difficulty for dairy farms is to cope with decreasing price over the long term — and recently strongly volatile — while the production factors remain expensive. The future of dairy production in Vercors is uncertain and the number of dairy cows has decreased by -13% during 2000 and 2010. But more significant in this perspective is the financial difficulties of the local cooperative -
unable to pay a higher price to its members and struggling for its own survival. There is no specific value added for milk produced in Vercors. Local producers and local elected officials and PNRV fear the disappearance of milk collect in the area. Phasing out of quotas is opening on rather unclear perspectives. At this ending point of our story, the economic situation of dairy farming systems is not quite alarming, but the future is frightening in many ways. The issue goes much beyond the Vercors case, but set the questions for all dairy collect in Northern Alps and mountainous productive regions.

This running question of milk future takes place in a wider policy context, induced by the changes in the CAP. Without detailing a well known story, from 1992 to present, the CAP payments have moved towards decoupled payments. Agrienvironmental payments also have been relatively high in grassy and mountainous regions such as Vercors. The ongoing French approach in this regard has been the rebalancing of payments and milk quotas towards grass (of all kinds, not particularly extensive/permanent) and mountains areas.

Doumas’ study show a range of public payments (P1 and P2) contributing between 10% for the less dependent farming systems (goat cheese direct selling) to 85% (beef systems, getting the suckling cow premium). Milk systems depends between 35% to 75% on public payments - the most dependant being the largest ones.

In the French agricultural political system, payments in regions like Vercors are meant to support the existing form of agriculture, in broad terms. The case of the Grassland premium (Prime à l’herbe) from its origin in 1993 up to 2013 fully illustrates the approach. Livestock breeders claimed this premium after the CAP 1992 payments clearly revealed the uneven payments between intensive crop areas and more extensive grassy areas. In a way, they wanted their (small) share of the cake. The grassland premium was seen as complementary payment taken from the AE budget, in addition to the LFA payment — which has always been a very political issue in France, showing the political weight of local elected representative in terms of public money return. The content of the requirement did not matter and was tailored in order to coincide with sectoral production basins, not with any precise AE issues. In broad terms, the issue is the continuation of livestock activity: it fully overlaps LFA’s philosophy. Later inquiries towards farmers getting the grassland payment showed that the vast majority of them ignored that it was an AE scheme. For a measure that represented 80% of AE budget, this is questionable. This approach of AE, decided at national level, fully met the expectancy of most farmers and local institutions: easy money with hardly no requirements, contributing to the overall continuation of farm activity. The fact that this money indeed was (is) used for supporting expensive investments and/or land price is not really seen as a problem: it makes the local economic machine works. Local farmers active in well organised dominant farmers union bring up this demand.

In symmetry, due to institutional pressure from the EU and from the Ministry of environment, the left share of AE payment is directed towards N2000 sites. On the contrary, the idea is to concentrate means in these areas. In between, there is little left when the AE payments for organic farming are taken out.

3.3.5  **The failed HNV project in the area: premises and development**

However, in 2010, this dominant policy and political approach reaches its limits for different actors.
In Vercors, this was the case for the following local actors:

- environmental NGOs - notably the local *Ligue pour la Protection des Oiseaux*, but not only - that stated that the trends at play led to environmental degradation (see below) and that this too easy and inefficient AE payments competed the more demanding ones, while N2000 are too narrow;
- some public bodies - the Departemental Council of Isère (*Conseil Général*) - that was engaged in a specific payment for the maintenance of open landscapes showing abandonment risks. This actor also stated that his targeted policy was diluted in the blanket approach of AEM
- the PNRV, in which internal debates between the agricultural commission and environmental commission pushed for further integration: more environmental efficiency and more perspective for farmers
- some marginal farmers that stated that while they were having positive practices, they were getting much less payments - and public recognition - than the most intensive ones. Such farmers could be met in APAP (Association pour la promotion des agriculteurs du Parc du Vercors).
- some engaged academics concerned by the trends at play, questioning where they would lead. One of them was the chair of the Scientific board of the PNRV.

It should be noted that it is unclear to what extent the demand for truly environmental quality was shared by wider local actors and citizens. For most of them, Vercors indeed has scenic and natural landscapes and you need to have an educated eye to catch that intensified temporary grasslands are not as good as flowered meadows.

![Image of scenic landscape]

**Figure 11:** for most local citizens and tourists, the scenic quality of landscape is what matters. As long as the landscape is green, it is OK

But local institutional actors were also sensitive to the emerging demand for biodiversity conservation and landscape management that rose from the 1990’s, borne by EU policies (N2000) and the explicit objectives of the CAP if not by the implementation of its tools. After two decades of deceiving implementation of AE on the ground, there was a search for meaning: getting the AE money was not enough for some actors, and for a large bulk of farmers.

The flowered meadows - *prairies fleuries* - contest started in 2006, initiated by the close PNR des Bauges in close cooperation with PNR Vercors. The idea was to have a result oriented approach - the more (specific) flowers, the better - and a social recognition for recovery of meaning. The social scheme, with its methodology, the publicity of surveys, the festive ambiance of the contest was a real innovation in the AE approach. Note that at the origin, there was only the contest. The
difficult inscription in the French AE RD program went later on, in 2007. Flowered meadows brought something new in making biodiversity conservation tangible and in bringing kind of quality judgement: not all is the same.

The origin the HNV project for Vercors can be found in the activity of EFNCP in 2009. During this year, a synthetic document had been written — in French! — in order to convey most key concepts associated to HNV farming. This was judged important as the concept gained in visibility at the EU level but was seen as complex and unclear for most AE actors, mostly at the national level. The national federation of *Parcs Naturels Régionaux* (they are around 50 in whole France) was one of the most engaged actor in the promotion of HNV concept. This document aimed at complementing SOLAGRO’s HNV map of France, which had little socio-politic dimension. The EFNCP document supported a conference organised at the end of 2009. The meeting with PNRV was partly logical — through the national federation — and partly incidental. In fact, one of the map of the EFNCP document was taken from a study commissioned by the Departemental Council of Isère. This study was one possible amongst many other; Google played a role in bringing chance in the process. When the civil servant who was at the origin of this Isère illustrative map googled HNV, he found ”his” map and got in touch with EFNCP (in fact with the author of this story) for further explanation.

![Image](image12.jpg)

**Figure 12:** The HNV conference organised by EFNCP in 2009 was an opportunity to bring the issue to a French public - involving a wide range of actors. Vercors’ project started here

This contact was a way to engage Vercors’ actors in the conference: they were asked to report how they saw that HNV could be an adequate policy approach for their territory. There was of course different levels of argumentation: some were in the continuity of the previous policy (if HNV is to become a future official zoning for increased public payments, we want to be in), some were in the search of a special quality of project. But the decision was taken to go further in ”trying something”. The Burren Life project was clearly a good example to follow and, for EFNCP, the issue was to duplicate another success story.

After this 2009 conference, PNRV and Departemental Council of Isère mobilised seed money through a LEADER program for the provision of a preliminary study and meetings of a working group. This WG consisted in the actors listed above: Conseil Général de l’Isère, PNRV, LPO (Bird NGO), APAP (local
farmers association), IRSTEA (research institute, with the status of scientific board of PNR) plus EFNCP and a national agricultural university (ENGREF) and a regional agricultural technical institute: *GIS Alpes du Nord*. This institute notably conducted extensive studies on grassland uses and forage systems. It had a unique expertise on the zone. It is important to note that this institute is largely controlled by the *Chambres d’Agriculture*, who are themselves quite close to the dominant farmers unions mentioned above. The missions of this working group were: (i) lead a study on the characterisation of HNV in Vercors — Camille Doumas' work is this study; (ii) identify possible actions in favour of HNV, on this basis. It should be noted that the budget was rather limited at 28,000 euro in total. This was identified as a limit from the start, but the assumption was that it was better than nothing.

At this stage of the process, if we use a translation sociology grid, we were at the two first steps of the engagement process: (1) the EFNCP 2009 conference set the "problem" of a ill approach and management of biodiversity [first step of the process: one says that there is a problem]; in the case of HNV, the "problem" is linked with a potential opportunity of properly addressing biodiversity management in line with (timid) EU guideline (2) it also gathered a group of actors into a "concern-sharing" phase [second step of the process: other actors share the problem, they agree to spend some of their time to investigate]. In late 2009-early 2010, the challenge of the process was to go until the two critical following steps of the translation process, that transform concern into action: (3) "enrolment" [actors sharing the initial concern are convinced and collectively act in order to address the problem rose at first instance] and (4) "mobilise their allies" for action. (Callon, 1986), (Klerkx, Aarts, & Leeuwis, 2010)

In this perspective, the characterisation study of HNV in Vercors had two goals: firstly, clarify what are the challenges in terms of HNV management; secondly, identify the room for manoeuvre, considering the trends at play in the area.

As for the clarification of HNV challenges, the historical approach was identified as relevant in order to understand long terms development in biodiversity. The following figure and table summarize the conclusion of this analysis, drawn from the elements told above.
Agricultural landscape early 1950’s

Down slope  Valley bottom  Sandy/gravely hills  Down slope

Perm./temp. grassland  Permanent pastures mowed/grazed  Crop mosaic and temporary grassland  Perm./temp. grassland

Landscape changes from 1950’s to present

Permanent+temporary pastures mowed/grazed intensification  Less cereals – grassland intensification

Landscape: present

Farm  Wetland  Pond  Deciduous Conifer Drained area  Forest expansion Village and hamlet expansion

Figure 13: Landscape development over the last 60 years (Doumas)
Decrease in area of wet grassland and in permanent pastures, mowed and grazed → loss of habitats for birds, flora and aquatic biota
More frequent ploughing of (initially long term) temporary grassland → decrease of floral diversity in sandy/gravelly hills and in valley bottom
Fertilisation of grassland → decrease of floral diversity, impact on aquatic biota
Early grass cutting (wrapped grass) → compromise bird reproduction, loss of insects
Urbanisation, loss of mosaic landscape feature → less circulation and shelters for fauna

Table 1: synthesis of biodiversity issues in the LA (as displayed by Doumas)

This explicit display of trends and environmental challenges associated to biodiversity was critical in the case of Vercors. It was a way to gather in one common frame different concerns borne by different actors: wetland management, highly flowered meadows, birds protection, water protection... What is at stake? What causes behind it? In a (still) biodiversity rich area such as Vercors, "green", mapped as HNV when adopting a national perspective, this was far from being obvious.

On this ground, the second step in the analysis was to make the link between the ecological challenges and the development of farming systems: what are the driving factors at farming systems level? What would an HNV project mean for the development of FS in the area? This crucial link could have been established thanks to a comprehensive survey made by the above-mentioned IRSTEA (present in the working group). This survey (Benistant 2013) set the detailed links:

- between management practices (fertilisation, mowing, grazing,...) and overall floral quality on the one hand.
- between farm types (intensive dairy, beef\(^\)\) and management practices

This work showed clearly showed that while biodiversity management was not "black and white", even intensive farming systems had virtuous management practices in some plots of their UAA, trends on dairy farms were problematic. On this basis, a proposition HNV-management of the area could be made explicit. The following question underlined this proposition: "what HNV space management would make a positive difference with the current (problematic) management?". Without detailing here, the main points of the project were:

- The overall ecological quality of the area stands on the diversity of extensively managed grassland: there is a need to have extensive management in all of the agroecological units of the area, and not only the ones with poor soil;
- Yet, this objective should be made consistent with the technical needs of the farming systems and alternative ways of supplying fodder systems should be found: with search for further productivity in some concentrated areas (including re-development of fodder-cereals); with common management of fodder (exchanges between farms). Proposition considered the variety of farming systems in the area;

\(^{17}\) The typolgie established by Benistant (2013) was not quite the same as the one of Doumas, but they could easily be compared.
Such a project only makes sense if it brings a territorial added-value. The key idea was to take stock of the success of the flowered meadows contest and presenting the HNV project as a whole territory project, making Vercors special in terms of ambition and fulfilment. Social monitoring and communication were identified as key, having in mind the strong touristic identity of the area. Links with the Bleu du Vercors-Sassenage cheese were also identified as promising for a DOP in search of a specific market position in a rather unclear future outlook.

In the course of the study, it was identified that the project could be a pilot one in proposing an EIP project in the regional rural development program that was under construction in 2014. At this stage, options seemed to be open in a context of redesign of the CAP and new institutional settings in France that gave to the Region elected representative the lead on the management of P2 (instead of State regional authorities in the previous RDPs).

Figure 14: Translating the requirements of biodiversity conservation into management regimes in the landscape was a critical step for making the HNV project understandable and visible - this was also the basis for further discussion on how to make it possible for the different farming systems of the area

One can see in these lines the four dimensions of HNV-Link innovation grid: market, regulation, technical and overall, organisational. Indeed, it was clear that the proposed HNV project would need to combine all of these aspects.

All these ideas had been developed and discussed during meetings involving the working group mentioned above for nearly three years (including the analysis phase), with regular participation of an elected member of the PNRV board whose mission was to be the ambassador of the project towards the rest of the board.
The challenge of the Vercors HNV project was to go beyond the working group, in order to reach more influential decision makers and actors. Some efforts had been put in terms of analysis and communication, in order to show those "external" actors that their main concerns were identified and addressed. But the PNRV agricultural officer and the GIS Alpes du Nord engaged in the working group showed some reluctance in relaying the work undertaken in the working group towards wider audiences. Clearly, the chair of the scientific board of PNRV and EFNCP (=me!) called for presentations of the project before stakeholders, in order to challenge it. But the meetings for such presentations could never be organised.

This surprising position — at the same time engaged in the HNV project, and not fully supportive — could be explained when considering the wider context of the project. Even if it has not been fully demonstrated, we can assume that the HNV project for Vercors would have had been a bit disturbing for most dairy farms in the area (the alternative farmer in the working group reported in this way). The fact to set explicit ambitious/realistic objectives for biodiversity conservation was at the same time a need and a risk. Some informal talks with other actors revealed that the regional organisation of Chambers of Agriculture saw the Vercors HNV project as not really desirable, as it would compete the institutional message of "mountain agriculture is good for the environment by nature". Note that ministries of agriculture and environment did not support the HNV concept that was also competing the more accepted multifunctional French concept. In reality, HNV as a concept and an approach was identified as "too green" when considering the French approach of AEM evoked above. External supports from other institutions could not be expected. It was only clear after the course of the HNV project, but the work done in Vercors was not really well seen from influential external agricultural actors.

Figure 15: local field visits and interesting discussions with local stakeholders - here, the representative of Vercors' farmers association - are not enough to engage all the needed actors. An innovation project comes in competition with other projects and has to prove its worth

Conclusions from the working group were also interfering with the ones taken out from another much more funded and better equipped project — in terms of research and institution means —
calling for ecological intensification. This project concluded for the search of more autonomy for farms based on local maximisation of grass production, thus a semi-intensification on all grassland in good soil conditions. These conclusions contradicted the one of the HNV project in an area that is, at the end, rather favourable for one form of intensification. Nice alternative thoughts emerged during the working group's meeting, but daily life went on for local actors just the day after.

In this context, and given the modest means allocated to this project — after all, it was a study based on an internship (C. Doumas) and a series of working groups — it is not really surprising that it could not go to its end. Possible tensions with agricultural institutions were expected, but there seemed that there could be a coalition to play between local nature conservationists and other local elected representatives. However, discussions also revealed that those latters did not share the concerns about nature conservation that Camille Doumas displayed. As said above, Vercors is indeed a nice place with a lot of green and still significant amount of flowers in more difficult soil contexts. The added value of HNV is not obvious in this context. In fact, threats on biodiversity are not that clear for most actors, and they don't weight with the ones on the dairy sector. HNV would have brought a complicated and demanding path for both nature conservation and agricultural economy. This would have taken time and energy to present and discuss the ins and outs of such a project. This was not the time - Regions were submerged with the administrative burden of RDPs. Despite what was planned, the application file for an EIP HNV project has never been submitted to the regional authorities.

The third critical step of the translation sociology process (enrolment) failed: key actors could not act in order to convince their partners to support the project. The allies' mobilisation was then out of reach.
4 ANALYSING THE NARRATIVE: A METHODOLOGICAL OUTLOOK ON THE DIFFERENT THEMES OF THE BASELINE ASSESSMENT

The above narrative has been built by mobilising the different themes identified to meet the need of the baseline assessment: agroecosystem assessment, agrarian and farming system analysis, rural analysis and actor analysis. This section revisits the narrative through these angles of analysis, making more visible the components mobilised and the way to elaborate them. Before doing this, a short discussion is made about the structure of the narrative as a whole and the way it addresses WP1 and WP2 and innovation.

4.1 A Vercors' story aiming at embedding HNV innovation (WP2) in a wider baseline analysis (WP1)

The project participants of HNV Link have identified the relationship between WP1 and WP2 as a major issue. Where does stand the limit between the two? How can we articulate them?

The above narrative is an attempt to address this question through a concrete example. The "setting the scene" section and the first steps of the story (until "3.3.4 - 1990's - present: hard times for milk - agrienvironment: convenience store payments or HNV?" included) clearly refer to the baseline assessment (BA). It should be noted that this BA contains innovations analysis: organisational and institutional, technological, market and policy. Putting those innovations in the BA is doubly necessary for our purpose: because they indeed are at the core of the developments described in the story (agriculture has changed due to strong innovations taking place for decades); and because they are a strategic element to consider for HNV innovation. Vercors' story clearly illustrates that HNV innovation does not come in an empty context, from far. It has on the contrary to find its niche in an already occupied field.

The last section of the story ("3.3.5 - The failed HNV project in the area: premises and development") address a (tentative) innovation process, thus referring to WP2 (in WP1 context). We wanted to make clear the origin of the project, with the 2009 national conference on HNV and the way it echoed some concerns of some local actors. Our purpose is to show that an HNV innovation project — or a nature conservation project, the label does not matter — needs to be analysed at different scales. Indeed, in this case at least, the strengthened conservation project borne by the HNV project partly came from the outside — contradicting an iconic vision of local communities better placed to manage nature conservation. But this external input is the very nature of innovation ("in novare": bringing something new from the outside in a given place). Sometimes, the origin of an HNV innovation cannot be marked so clearly (and one should also look for the origin of the 2009 HNV national conference, etc.). But we assume that there is most of time, if not always, a "founding event" of this kind of process, and the meeting of internal and external actors.

Last point re WP1 and WP2: we hope that we have demonstrated how WP1 is necessary for the good understanding of WP2. Not only does it set the context in which HNV innovation takes place, but it also shows that an innovation project more or less explicitly refers itself to a baseline situation18. It proposes something new in reference to a given analysis: an alternative "tangible vision, [being] an

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18 in the case of Vercors, it was explicit. Klerkx et al. discuss to what extent the level of explicitation is needed. It can sometimes counteract the innovation.
important factor in the realization of an innovation" (Klerkx et al. 2010). Indeed, most of the elements of the BA were processed in the course of the innovation process itself.

4.2 Agroecosystem assessment

The agroecosystem assessment is essential in the BA and understanding the context of HNV innovation. Its existence and mobilisation is a key criteria in order to characterise an HNV innovation from the rest of innovations, which do not take into account nature conservation as a relevant output.

Putting the agroecosystem assessment in an historical perspective — itself needed in order to address the temporal dimension of innovation — has many methodological implications. In most cases, data on indicator species do not exist in the medium or long term. They can even be missing for present. We defend the idea that a landscape analysis, inspired from a landscape ecology approach, is a relevant way to address agroecosystem assessment on the long term. The following figure from (Fischessser & Dupuis-Tate, 2007) provides a relevant archetypal representation of this landscape analysis.

**Figure 16: link between the development of an archetypal agricultural landscape structure and superior plant and fauna diversity (Fischessser & Dupuis-Tate, 2007)** - in reality, we don't have documented data for all the species associated to the landscape, but we can reconstruct likely plausible evolutions on scattered ecological data.
Fischesser’s figure is mainly pedagogical, although it is based on the synthesis of real development. From our own experience, it has proved to provide a good communicative common frame for most actors, although it should clearly be adapted to real situations\(^\text{19}\). The landscape representation is close to the concerns of a large range of actors and, by many ways, more adapted to an "indicator" approach that only specialists can fully understand.

This being said, this landscape ecology framework needs to be completed on a more functional perspective in a baseline assessment. There is a need to make explicit both the nature of the different landscape agroecosystem units forming the rural landscapes described and the relationships between these units, while it is implicit in Fischesser’s figure.

- Characterising the nature of the landscape units requires to consider soil, relief, exposure, moisture etc. criteria. We do not develop here a field of studies that has been well investigated (see for example the synthetic paper of (Zonneveld, 1989). (Doumas, 2010) shows how these landscape units have been set in the case of Vercors (see Figure 3: the different agroecosystemic units (after Doumas). Zonneveld insists on the fact that such characterisation must be made accordingly to the scale of the studied area.

- The relationships between the different landscape units can be approached through a flow analysis, considering the fertility transfers from one unit to the other: what are the oligotrophic sources of fertility (saltus)? what are the mesotrophic ones? (Poux, Narcy, & Ramain, 2009). The following figure shows this analysis for Vercors. It provides a good basis for estimating the likely floristic diversity of landscape units in the past. It also gives a landscape perspective of biodiversity richness, mobilising the biodiversity $\alpha$, $\beta$ and $\gamma$ framework (Whittaker, Willis, & Field, 2001) - see figure Figure 18 below.

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\(^{19}\) In present HNV areas, the situation might be closer to what Fischesser and Dupuis-Tate describe for the XIX\(^{\text{th}}\) Century than for the XX\(^{\text{th}}\) Century.
Figure 18: the three components of biodiversity in a landscape: biodiversity \( \alpha \) is the one of each plant community (each ecological unit), \( \beta \) results from the ecotone and \( \gamma \) from the wider diversity - estimating the development of each level of biodiversity through time is a relevant way to build an agroecosystemic assessment of a LA

Such grids in characterising a landscape from an agroecosystem perspective are useful in order to propose landscape development over a long period. (Doumas, 2010) adopted a methodology combining literature (landscape description in geographical studies), historical photos and interviews with old farmers. The case of Vercors suggests that relevant agroecosystem landscape characterisation can be made without going into a detailed academic study. It also suggests that it helps in understanding what is at stake in terms of biodiversity management (see 2.7 - Analysing the situation: what challenges for "HNV innovation"? and Table 1: synthesis of biodiversity issues in the LA (as displayed by Doumas)

4.3 Agrarian and farming system analysis
The agrarian and farming system analysis\(^{20}\) is pivotal for both baseline assessment and innovation.

As for the BA, the agrarian/farming system must attempt to explain the development of the management of landscape and biodiversity. In this regards, it consists of the "explanatory variables" of the "agroecosystem variables ". The need to explain such relationship (i.e. between farming system, landscape and biodiversity) puts a need on having explicit outcome analysis of farming systems through a spatial and ecosystem lens. For example, a description of farming systems only in terms of broad land use (% of permanent grassland as a statistical category for example) is not enough, even if it is necessary. The analysis needs to be both spatially explicit — mobilising the landscape units — and explanatory of the key management practices (fertilisation, pesticide use,

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\(^{20}\) See Box 1 for these two notions - agrarian system, farming system.
grazing regimes, drainage, irrigation, etc.). On the other hand, the agrarian/farming system analysis also needs to address the driving factors playing at the farms level, that can explain their functioning and the farmers' choices. Thus the needed analysis is two folds: one must address the links between practices and environmental developments; one must address the links between farmers’ decision-making and practices (senso lato). The farming/agrarian system analysis also is required in order to anticipate what are the needed innovations, for different systems.

**Box 1: farming systems / agrarian systems**

The concept of farming system is well developed in rural economy. Farming system is centrally a micro-economic concept, explaining the structure and functioning of one farm of several farms. It describes the combination of production factors (land, capital, labour, inputs, livestock... but it can also be skills, market approaches, diversification, seeds/breeds for more qualitative and detailed approaches) linked to farmer(s) project(s). The characterisation of such projects may differ accordingly to different analysts: from income maximisation for conventional economists to the integration of different dimensions (economy, quality of life, environmental management, philosophie...). The more complex the analysed projects, the more complex the farming system characterisation. FS can be applied for one singular farm (Mr. X’s farming system) or for a group of farms having the same structure and functioning (e.g. “intensive large dairy systems”). A typology approach is frequently adopted in this case.

The concept of Agrarian System is less widespread in the academic world. It has been developed by the French school of rural geographers, historians and agro-economists. It is mostly a regional frame of analysis, describing the way an agrarian society, make use of a given agro-ecosystem. It has from the outset an historical dimension and requires an holistic vision. The concept encompasses farming systems — analysed under a typological approach — and analyse their development in a socio-technical perspective. The AS frequently requires sound environment and landscape analysis as a starting point. An interesting symposium provides a comprehensive outlook on different works mobilising farming system analysis in an environmental perspective (Doppler & (eds), 1998). For AS, see (Cochet, 2015). (Doumas, 2010) is an example of AS analysis.

Online lecture on Agrarian system analysis (English with some bits in French) at: http://www.supagro.fr/ress-vice/iperca/AgrarianDiagnosis/co/module_DiagnosticAgraire.html

Without pretending that Doumas’ work is perfect and the only possible approach, from far, we want to highlight some key characteristics of her study that address in some ways the needs identified for both BA (WP1) and the identification of relevant innovations (WP2). These characteristics establish useful milestones for the provision of a FS/AS analysis in LA:

- **A systematic spatial analysis in the functioning of FS and their landuse.** The use of landscape transects, as represented in Figure 2: agricultural landuse across different agro-ecological units (from Doumas, 2010)Figure 14: Translating the requirements of biodiversity conservation into management regimes in the landscape was a critical step for making the HNV project understandable and visible - this was also the basis for further discussion on how to make it possible for the different farming systems of the area for example, is a useful way of addressing the whole kinds of landscape units managed by different farming systems. This systematic approach allows the avoidance of two pitfalls: focusing only on some areas (well characterised areas of biodiversity interest or on the contrary on the most productive land, neglecting the marginal ones); focusing on the dominant farming systems (when scanning the whole range of landscape units, one should wonder what FS are making use of them). This spatial analysis explain the link between the functioning of FS and the overall
environmental quality of the LA as characterised in § Erreur ! Source du renvoi introuvable. 21

- **A long term analysis taking into account structural changes in farming systems** (land, labour, capital/equipment [focusing on qualitative description of characteristic equipment such as wrapping machine, large barns, etc.], productive rationales). The degree of description is higher for most recent periods, but this does not prevent from sketching a comprehensive portrait of farms some decades ago. Technical changes in relationship with physical productivity (e.g. evolution of cows productivity for the last 60 years) is a powerful explanatory variable in the FS history. But the analysis should be holistic and apprehend the different factors explaining the dynamic of FS: land access (see for example the different access to different land quality depending of the FS history in Vercors: "good lands" for modern dairy systems; "poor lands" for suckler cows and goat systems - which is fine at the end); advisory and credit access; possibility for diversification; etc.

- **A typological approach.** This aspect of the work of Doumas has only been evoked in the story of the previous pages, but this was a significant part of her work. This typology was built in two perspectives: (i) a qualitative overall description of the development of the different farm types over the long period (adopting the structural description of the previous bullet point (ii) a detailed description of present-time farming systems, quantifying the economic performances and production factors costs. This present-time typology also analysed the different public payments received by different farm types.

The following figure shows the display of the long-term analysis proposed by Doumas:

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21 In the case of Doumas' work on Vercors, there was a lack of precision in this regards. The extensive characterisation of land-use in the different farming systems of the area performed by (Benistant 2013) has been crucial for the full understanding of the link between FS and land management.
Figure 19: Farm types development in Vercors (by Doumas): this representation is a way to show the origin of present-time farming systems. The closer to present, the more detailed the typology

In terms of practical method for the agrarian and farming system analysis, in addition to the fundamental documentary and stats research, the following means are to be envisaged and combined:

- Framing and screening interviews with persons with local knowledge, typically retired farmers and experienced advisors in order to get an overall understanding of the different farms development and key driving forces (see 4.4 below). Those interviews should be multiplied in order to get plural points of view. The nature of interviews guides is open and the questions will evolve with time. They fundamentally adopt an historical perspective. The scope of such interviews should include farming systems and marketing channels/organisations.

- Scoping interviews and surveys. In the above points, those interviews can be of two kinds: semi-structured and fully structured. For the former, typically for farming systems, the interviewer must deal with both closed-ended questions (e.g. "what is your UAA?") and opened questions (e.g. "what are your plans for future?") — this kind of questionnaire was used by C.Doumas. The latter type of questionnaire looks for more systematic data and is of survey nature, for example the one used for the characterisation of land-use and forage systems across farms.

- Working and focus groups, aimed at gathering synthetic pieces of information and altogether identify the different visions and interests of the actors involved in these groups. This format of work allows an efficient gathering of data and, if well conducted, actors involvement. But it cannot fully
replace the kind of in-depth analysis conducted through face to face interviews/surveys.

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<td>26.00</td>
<td>69</td>
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Figure 20: (Benistant, 2013) conducted systematic closed-ended questions in order to fully characterise the fodder systems and the types of grassland (not visible on this table). The value of such survey is high, but it must be adapted to the area. Such extensive approach was possible due to the low number of farms; otherwise, sampling is necessary. This kind of approach does not replace more holistic ones but is a precious complement.

4.4 Rural analysis and supra-local factors (policies, technologies, societal changes…)

Telling a complex story such as the one Vercors’ LA mobilises further levels of explaining factors. Some are playing directly in at the scale of the LA or in its close territory (for example, the influence of Grenoble and local tourism)22; other are playing at higher levels of organisation (for example, the CAP and the way it is implemented in the French context). Other are cross-cutting scales: the agricultural professional organisation is consistently playing at all levels of organisation.

Each explaining factor can be analysed for its own, requiring specific methods and approaches. However, in the case of the baseline assessment of LA, the level of effort needed to analyse the role of so diverse and complex driving forces should be considered. There is no point in undertaking extensive study on tourism economy or on farmers’ professional identity. Our assumption is that, once the driving forces of agrarian and farming systems have been identified in this specific field of analysis (see § 4.3 just above) and broadly characterised, it is enough for the sake of HNV Link. A relevant approach in this regard is to mobilise the range of explaining factors as necessary and sufficient for the understanding of the development of farming systems: it is sufficient to say that the CAP payments have supported the development of larger and more capital demanding farms — at which level of payment —; there is no absolute need to go further in the explaining factors of those

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22 It is important to give an overall understanding of the rural/urban and wider geographical context of the LA. This positioning helps for understanding the projects and visions of non agricultural actors, dominant in most cases.
payments. This "closing the system" and "simplifying the level of explanation" should be in mind in the course of LA baseline assessment.

The following figure proposes a synthetic representation of the suggested approach. Figures and tables inserted are taken from the previous section of the document as illustrations of the fields of analysis to be covered.

**Figure 21: driving forces analysis and how it should be determined by the understanding of HNV development as a focal point**

Figure 21 must be read as follow:

- The background photo represents the LA and its close territory, directly influencing its development through demographic and urban forces.
- The LA study is led by #1 green box, considering the biodiversity and landscape developments developed in § 4.2 above (agroecosystem study). These fields of analysis constitute the "variables to be explained"; the also are the output variables of an HNV project.
- Having identified and characterised these "variables to be explained", the first order explanatory variables fall in the agrarian and farming system register, developed in § 4.3 above (#2 orange box).
- The "intermediary variables", allowing the understanding of the relationship between 1 and 2 are dealing with practices and spatial development (# 2=>1 yellow box).
- The explanatory variables discussed in the present 4.4 are of different natures and levels (#3 blue box). They are explanatory of the first order AS/FS variables and should be identified and treated for this need. Note that "first" or "second" order does not imply any weight, but
a position of causality in the system.

Proposing such an inductive and ad hoc approach (from "to be explained" variables as focal points to the necessary and ad hoc identification of second order explanatory variables) is useful in order to make a contrast with the rather systematic studies required for agroecosystem and FS/AS studies. This being said, our point is not to say that the treatment of the second order explanatory variables should be over-simplistic. In the Vercors' story, our intention was to give a synthetic but sound understanding of, for example, forces at play in the touristic sector, in the local milk markets or the policy approaches and implementation, with outlook on farmers' sociology. Catching the right level of explanation requires further studies and can only be done by adopting a synthetic vision, sorting out the key factors out of a rich material. Following box proposes a list of plausible explanatory variables. The weight and causal relations between variables will vary depending on different contexts.

**Box 2: check-list of possible second order explanatory variables**

This list is established both from our own experience (the Vercors provides an inspiring case from this regard) and from answers from LA in the HNV Link questionnaire.

**At local and territorial level:**
- land-tenure rules, market and management (e.g. land boards, informal arrangements)
- advisory, extension system (what kind of systems are best advised?, if any)
- access to credit, under which condition (e.g. young farmers or modernisation plans)
- diversification (tourism, forest, local employment in other sectors)
- local marketing and direct selling
- local farmers organisation and cooperation (e.g. local dairy cooperative, local experimentation)
- local institutional settings and arrangements: role of local and regional authorities

**At supra local and macro levels:**
- policies: design, rules, implementing organisation
- technological development and extension (see the link with extension services above)
- market and food chain organisation and development — including the important role of transportation and logistical development
- climate change (to be further investigated for future development)

When coming to a practical method for studying those second order explanatory variables, there is no magic bullet nor guiding representations such as those proposed in § 4.2 (transects, landscape analysis,...) and 4.3 (farming system typology, practices studies,...). The check-list proposed in the above box is of help, we hope, but only at very early stage of the study. The right approach, to us, is to clearly identified what needs to be investigated (the right questions) and then perform ad hoc literature/documentary research, interviews, questionnaires and, if needed, focus groups. Those investigations should be guided by the search of efficiency, not academic fulfilment.

**4.5 Actors analysis**

Last but not least, the actors analysis should be considered as a crosscutting concern for the sake of understanding the baseline situation. The above section 4.1 A Vercors' story aiming at embedding HNV innovation (WP2) in a wider baseline analysis (WP1) emphasised on a vision analysing innovation — HNV innovation and other types of innovations — as resulting from actors intentions
and organisations.

This being said, as for the latter section 4.4, there is little point in proposing a unique analytical frame for actors’ analysis in the course of HNV Link and the provision of the baseline assessment. Different sociological frames can be mobilised and each LA should make with the available expertise in this domain. We have developed a bit in § 4.1 the sociology of translation as a possibly inspiring frame amongst others ([Klerkx op. cit.] but also for example (Mermet, Homewood, Dobson, & Billé, 2013).

But beyond a strict theoretical approach, our message to LA coordinators in this section is simple: consider and study the role and interactions of different actors in the development of farming systems and environmental management in your area. Many regional stories are told adopting a actors-free perspective: "farms are being modernised", "they is a growing demand for environmental services",... In the Vercors' case, we have been trying to show the role of key actors in the development of the area: within its boundary (farmers' unions, local elected representative, NGOs, researchers...). This if far from being complete and the actors characterisation is sometimes vague — which, we assume, is not always a problem when the issue is to describe the baseline development in which actors can be "archetyped".

But, as for the driving forces characterisation, this actors analysis should be conducted with the available means for a clear purpose: understanding the strategic context in which an HNV innovation has, is or will take place. This analysis should outline the following questions:

- who are the possible allies and beneficiaries of an HNV innovation? How organised are they? What are their motives? What is/could be their fears and reluctance?
- same questions for the possible opponents and "in-between" actors who should be convinced (nor identified allies, nor clear opponents — in Vercors, local elected representative felt in this crucial category of actors that can make a project happen or not).

Identifying and mapping the different actors playing in a LA is a relevant angle of analysis to develop — bearing in mind that influencing actors exist outside a LA (the manager of the dairy company, the consumers' association calling for organic milk...).

5 CONCLUSION: IMPLEMENTING THE BASELINE ASSESSMENT IN THE LEARNING AREAS

5.1 The baseline assessment as an adaptive and participatory process in the learning areas

The present guideline does not provide a fully formalised method for the provision of the baseline assessment, that LA coordinators would simply have to unroll. At the early stage of HNV-Link, such a promise could be reassuring for a LA coordinator, but it would not be credible given the variety of situations and already existing material. And we repeat, this would contradict the very nature of HNV innovation which by essence is open and adaptive. Quoting again the inspiring text of Klerkx and al.:
be regarded as Complex Adaptive Systems (CAS) (Ekboir, 2003a; Hall and Clark, 2009; Spielman et al., 2009). These are defined as self-organizing systems “whose properties cannot be analyzed by studying its components separately [. . .] formed by many agents of different types, where each defines his/her strategy, reacts to the actions of other agents and to changes in the environment, and tries to modify the environment in ways that fit his/her goals”

While a one-size-fits-all methodology is not adapted, the above developments nevertheless lead to guidance for the provision of the baseline assessment, in the view of supporting an innovation process (WP2). The concluding points in this respect are the following:

1. If the details of methods and data depend on the situation of each learning area, the nature of themes to be studied, the questions to be addressed and the way they should be articulated have been clarified. Notably, Figure 21: driving forces analysis and how it should be determined by the understanding of HNV development as a focal point is meant to proposes a consistent organising framework, with clear causal relationship to establish in the BA. This figure also proposes a logical order in handling the BA: agroecosystem assessment as the focal point is the starting one; other fields of analysis should be performed keeping this point in mind.

2. The story and narrative approach is complex to implement, but it provides a relevant way both to organise complex data of different natures and to communicate towards the actors of LA and to the outside world. Our point is not to say that each LA should take the Vercors story and material as the example to follow. But we hope that through the example of Vercors, we have demonstrated that: (a) a story approach is relevant for innovation analysis; (b) it is feasible as it is at the same time holistic, synthetic and does not require a too demanding depth of analysis (as this latter point was identified as a major concern for most LA coordinators who responded to the questionnaire). We acknowledge that there is a bit an art of story telling that depends on each story teller and audience, but this can be addressed with appropriate time and supports. The setting of the relevant timeline of events in a given LA is a paramount task. Having in mind the wider political and social context of the region/country is a relevant background to consider. In the case of Vercors, what took place in the LA can easily be put in the wider timeline of the French development of agricultural development and policies.

Re this story issue, some LA coordinators expressed limitation in going back further than 20 years, considering the available data and knowledge they have. There is no absolute required time depth, but we assume (a) that shorter time perspectives can also reveal some relevant co-evolution of farming systems and biodiversity/landscapes (b) that qualitative long term retrospective (60 years in Vercors) can be done through appropriate interviews and research. This aspect should be debated within HNV Link team meeting.

3. Last but not least: the provision of the BA in the LA is part of the HNV innovation process itself. In the above pages, we identified the need to have focus groups, experts' workshops and stakeholders meetings. These participatory events will feed the needs of the analysis. But at the same time, they will be chambers for identifying the challenges of HNV innovation. They are not "neutral" data and knowledge gathering, and only the fact to participate to such events is a kind of commitment for the local or external actors. This commitment can be of different natures: positive, neutral or adverse (when actors come to discredit the project) - of even of two kinds at the same time as evoked in the case of Vercors. While a piece of literature insists on participatory processes, consisting in "putting all
the actors around the table" for the whole process, this approach has shown its limits in many contexts where the dominant actors' interests are against the project, not to mention the fact that they are time-consuming. In this context, participation will then reproduce the uneven power relations and will be unlikely to bring HNV innovation, simply continue the business-as-usual innovations\(^\text{23}\). In the case of Vercors, we felt that it was more efficient to prepare a rather elaborated material in a small, dedicated project group for further discussions with stakeholders in a second step. The fact of being enthusiastic about biodiversity conservation and all the services it brings is not enough to enrol stakeholders who have other projects in mind. There is no magic bullet in order to identify what is the best approach between symmetric participatory processes (everyone around the table set the knowledge and the plan) and more strategic processes (a leader group proposing innovation starts with a plan). And this concluding section is not the right place to develop this point. Our intention here is to raise LA coordinators to envisage and assess different sociological innovation devices before implementing them. Both the strategic context (open or adverse) and the human and institutional means are to be considered\(^\text{24}\). Engaging an HNV innovation process in an adverse context with little means brings the risk of discrediting the idea of HNV, not to mention the waste of energy for the innovation catalyst. In HNV Link, this issue has also to be discussed in the frame of WP4, when preparing the regional meetings.

5.2 **Mobilising the baseline assessment for setting the problems, proposing a vision and identifying the innovation needs**

The discussions during the kick-off meeting of HNV-Link clearly showed that the baseline assessment is not only about describing and analysing what takes place in a learning area: it should also clearly lead to support for WP2. In this perspective, three specific outputs are discussed:

5.2.1 **Setting the problems.**

The basis for any innovation process is to make clear that some problems that are/were not visible enough to be addressed indeed deserve attention and involvement. The identification of problems at play can be done using the logical frame proposed in Figure 21. The following figure proposes a way to logically address this problems-setting. It emphasises the need to start from a first order of questions related to the dynamic of landscapes and biodiversity attributes and then go to the causes, being the explanatory variables and actors analysis.

\(^{23}\) One could discuss whether bringing the newer technologies supporting production increase is innovative.

\(^{24}\) (Beers, et al. 2014) show how the analysis of the strategic context is important for a project, and how neglecting it may lead to failure.
Figure 22: using the logical organisation of the BA to explicitly set the problems

In Vercors, the key analysis supporting the problem setting for Q1 are synthesised in Table 1: synthesis of biodiversity issues in the LA (as displayed by Doumas) and Figure 13: Landscape development over the last 60 years (Doumas) The farming system typology addresses Q2 and Q2=>1 (the main problem being the type of development of dairy farming systems) while our story encompasses Q3 and Q4 in showing how the current development system and institutional and organisational settings explain this system.

Part of the problem-setting is in explaining what are the current trends and where it leads in terms of image. The concept of a business as usual is supporting this idea. In Vercors, this aspect had not explicitly addressed in a fully formalised way, although it was implicit in most discussions that trends would lead to further intensification and land abandonment, although the trend towards re-diversification of farming systems made the future image less obvious than anticipated. Efforts in formalisation, even in very simple terms, are more than useful in this perspective.

5.2.2 Building and proposing an HNV vision

In an HNV innovation process, the baseline assessment must be used in order to justify engaging for biodiversity management.

Displaying a vision is the logical way to do so. The word encompasses two ideas: (a) it should be somehow visual, propose a complete image of the future (b) it should be inspiring, give positive
reasons for HNV conservation.

The HNV vision must encompass in some ways a description of a desired HNV landscape in the LA in a close or medium term future, in relationship with biodiversity conservation: the issue is not only to describe a scenic landscape but to explain how this landscape is linked with the presence of rich habitats. Calling for a "mandatory" display of landscape/biodiversity element in the vision seems necessary in the light of a result based approach at landscape level, which forms the basis of an HNV project and distinguishes it from other "natural resource management" or "rural development" projects (without discarding their value). In other words, the vision must go through box 1 "landscape and biodiversity variables to be explained". The design of this vision should ideally involve a variety of actors; but if it is not only a matter of experts, it seems difficult to set a proper and relevant vision without high experts contribution — possibly farmers — and without any normative expectancy on nature conservation.

In Vercors, Figure 14: Translating the requirements of biodiversity conservation into management regimes in the landscape was a critical step for making the HNV project understandable and visible - this was also the basis for further discussion on how to make it possible for the different farming systems of the area is the explicit display of such an intention. It is not from far the only formal way of doing it and comprehensive pictures — more attractive than the rather technical figure of Fig.14 — can also contribute to the landscape vision. However, it should be clear that the vision should systematically cover the whole components of the landscape: the interest of Fig. 14 is that it does not only address the currently identified areas for conservation (wetlands, dry slopes under process of abandonment) but the whole transect.

Beyond this explicit landscape display, the question of up to where the vision should go, and with what degree of precision is open. Deducting from the desired HNV landscapes what should be the desired HNV farming systems is not an easy task and in any case it should be done involving a wide range of farmers. But if the full picture is not necessarily to be designed at first instance, this does not mean that the effort of formalisation should not address some key features for the farming systems vision and beyond, for the wider development context of those farming systems. If we put these explicit displays in a grassroots social process, it is questionable whether going in front of local actors saying "this is our vision of the desired landscape, but we have no clue about farming systems" will deliver. It looks arguable to bring some elements for a local debate, while keeping flexibility and rigor in their arrangement.

5.2.3 Identifying the innovation needs/gaps for the HNV vision

The last output of the BA is about identifying the needs and gaps for the provision of the HNV vision. This should logically be deducted from the comprehensive analysis, by going back to the explanatory variables of second order explaining the development of farming system, although it would be simplistic to adopt a "all factors being equal" approach (for example: my HNV problem is that the lack of livestock => increasing the livestock payment is what is needed).

The needs, or innovation gaps, should adopt a systemic analysis of what would be the conditions for the development of HNV farming systems? What needs to be changed? and thus, what are the innovation gaps? Such needs/gaps are of two kinds:
- thematic needs: in terms of market innovation, techniques, monitoring, social, AKIS, etc. This thematic approach echoes WP2 structure.

- actors needs: having identified the thematic needs, who are the actors able to address them? What needs to change in the way they are organised, work and make their decision?

For example, having identified a need for change in the advisory system, the approach should go in the actors' analysis in order to understand how to make this advisory system change. It is probably not only a matter of advisers but also a matter of advisers' superiors and their own interests. We don’t develop here, but our intention is to call for a strategic thinking in this domain.

![Diagram showing the logical frame for building an HNV vision and identifying needs](image)

**Figure 23:** using the logical organisation of the BA to set the HNV vision and identify the needs for innovation

### 5.3 Practical organisation of the baseline assessment in HNV-Link

The following figure recalls the Gantt chart of WP1 in the project, until the end of the "shaping" phase.
Figure 24: A reminder of the Gantt chart of WP1 in the "shaping" phase of HNV Link for LA only

This figure should be put against the list of deliverables that has been recalled above, in 2.8

Reminding the formal deliverables that this note should support.

The next crucial meeting point is the "fair" — BA should be completed by this date. This Gantt chart does not show the crosscutting analysis of the Atlas which it out of the scope of this section.

We develop further the different steps for LA.

5.3.1 First step (September 2016): plan the BA as a territorial process

The BA is at the same time an analytical output and a process taking place on the ground. It is destined to engage local actors and gather their expertise (see § 3. The provision of the BA in the LA is part of the HNV innovation process itself in 5.1 The baseline assessment as an adaptive and participatory process in the learning areas above)

There is no point in this guidance document to give common approach for this plan in each LA, as the sizes of the LA and more significantly, the actors concerned by HNV-Link and the stage of HNV innovations greatly vary across the set of the 10 LA. While the Burren are dealing with a strong institutional support to disseminate a rather completed success story, most areas are dealing with partners potentially interested in HNV innovation, but not yet.

Thus, the plan in each LA should set the relevant balance between data collection (stats, photos collection, interviews and survey...) and participatory processes. While the present document should have given the fields of analysis to be covered, it is the task of each LA to organise the way to cover them. Of course, this planification should be done with regards to WP2.

Concretely, the plan will take the form of a Gantt chart or any planification support clearly showing:

- what is the material to be collected for the provision of the BA?
- how? with whom? (existing data/surveys/expert groups/focus groups/participatory meetings/…)

- by whom? with what means? (considering the available budget)

- by when? (the BA should be completed by May 2017)

There is no need to have a centralised "monitoring" of the plans in each LA by WP1 nor WP4 leaders. However, support and advice can be given if requested.

5.3.2 Set a draft material for the BA by end November

While the contractual deadline for the provision of each BA is end of May 2017, it has been acknowledged as useful to display a first draft:

- of the relevant story timeline in each LA: time periods and overall "pitch" of the LA story (the story in a nutshell)

- of the existing material in the four BA themes, with emphasis on visual material. Stats should be put into figures; pictures are welcomed; a synthetic slogan can also be useful… We are not looking for raw data but for communicating ones 25

The idea is to review the existing elements, identify the data gaps and organise them in a narrative perspective: what do I have and what do I need to tell the story of my LA? We here remind that the Vercors can be used as a template.

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25 See the way such visual elements have been used in the Vercors story.
Figure 25: A visual support for the November deadline: what questions? what material?

The form of the deliverable is a powerpoint to be sent to WP1 coordinator and that will be displayed for internal use in the HNV Link platform.

Feedbacks on the material will be given by end December 2016, in order to give time for the provision of the narrative.

5.3.3 Display the synthetic note of the BA and peer reviewing: May 2017

The synthetic notes due as deliverables D 1.3.1. They will take the form of communicative story written in English and illustrated, whose function is to make an external reader understand what are the key features of the LA, the dynamics at play in its development, what is a plausible Business As Usual scenario and what is the vision for HNV landscapes and farming and the associated challenges for HNV innovation.

We insist on the fact that the narrative should not be understood as an academic exercise: the story telling is the right angle for approaching the deliverable. A scientific/social journalist mind set seems appropriate for the provision of the narrative.

It has been agreed to adopt an internal peer-review process, in which each LA coordinator will review one narrative from another LA, preferably he/she does not know about in order to maximise the neutrality of the reading. The criteria of review will not mainly be academic, but: is it a good story? is it understandable? does it make the challenges for HNV management clear? WP1 leader will read all
stories.

The agreed time table for this final process is:

- display of the V0 narrative for each LA: between 10 and 15 May 2017 the latest
- peer-reviewing by 26th of May
- consolidation of final V1 narrative by 31st of May

5.3.4 The Atlas

The Atlas will be ready for the HNV fair (see 2.8 Reminding the formal deliverables that this note should support above for its framing). It will be designed by WP1 leader, with support from other WP leaders. The material will be the synthetic notes, and possibly complementary informations.

The timetable for the Atlas is:

- May to mid July: V0 of the Atlas by WP1 leader - internal dissemination
- Mid July to end of August: feedbacks from HNV-Link consortium
- September: final version of the Atlas

5.3.5 The "hidden" but most important part of the BA: on the ground - feedbacks are expected

The provision of the synthetic notes and the Atlas will be the visible outcomes for the external audience of HNV Link, used in the "using" phase of the project. As such, they require formal efforts.

But at the end, what matters is the fact that the BA has been undertaken and discussed in each LA, in national language. By experience, long reports are not needed and key figures or maps or key findings (or ...) crystallise most discussions on the ground. These materials are the ones needed for engaging a BA supporting an HNV innovation process, as stated in the above pages.

Fully reporting on the local processes is time consuming and not necessary for the course of HNV-Link. However, it has been promised and it makes sense to report back on the interest of a baseline assessment in an HNV innovation process. Is the fundamental assumption that such a BA is needed for local actors verified?

Two kinds of feedbacks are expected:

- from local stakeholders: what did they learn from the BA? Did they better realise the specific needs for HNV conservation? Did they better understand what is at stake? ...

- from LA coordinators: as the method displayed in this guide is also meant to be disseminated, it will be useful to get feedbacks from the "users" of the method: what does (not) work? what should be improved? ...

Those questions can only be addressed in the course or when the BA is completed. But it is important to have them in mind at the very beginning of the process and to be ready to collect local stakeholders feedback (by formal or informal interviews, by short videos): giving voice to those...
actors is important for the further communication of HNV-Link.
6 CITED LITERATURE


7 LIST OF FIGURES, TABLE AND BOXES

Figure 1: The Vercors seen from Grenoble ................................................................. 13
Figure 2: agricultural landuse across different agro-ecological units (from Doumas, 2010) ... 14
Figure 3: the different agroecosystemic units (after Doumas) ........................................... 16
Figure 4: land use in the 1950’s (Doumas): half permanent pastures, half crops/legumes ...... 17
Figure 5: landscape structure in the 1950’s (Doumas) ..................................................... 17
Figure 6: landscape in 1920: a mosaic of small fields in the flat valley and hills - wood and pastures on the slopes........................................................................................................ 18
Figure 7: Montbéliarde has been the dominant dairy breed since the 1960’s onwards (Photo: C.Doumas) .......................................................... 19
Figure 8: grass wrapping has become the main fodder technique for larger dairy farms in the 1990’s ........................................................................................................... 21
Figure 9: the local Bleu de Vercors-Sassenage PDO is a market innovation rediscovering a traditional product - but allowing modern techniques impacting biodiversity ........................................... 21
Figure 10: distribution of UAA managed by different farm types characterised by Doumas .......... 22
Figure 11: for most local citizens and tourists, the scenic quality of landscape is what matters. As long as the landscape is green, it is OK....................................................................... 24
Figure 12: The HNV conference organised by EFNCP in 2009 was an opportunity to bring the issue to a French public - involving a wide range of actors. Vercors’ project started here ......................... 25
Figure 13: Landscape development over the last 60 years (Doumas) ..................................... 27
Figure 14: Translating the requirements of biodiversity conservation into management regimes in the landscape was a critical step for making the HNV project understandable and visible ........................................ 29
Figure 15: local field visits and interesting discussions with local stakeholders are not enough to engage all the needed actors. An innovation project comes in competition with other projects and has to prove its worth .................................................................................. 30
Figure 16: link between the development of an archetypal agricultural landscape structure and superior plant and fauna diversity (Fischesser & Dupuis-Tate, 2007). ............................................. 33
Figure 17: understanding the N flows in the landscape (in blue) in order to estimate biodiversity richness of different landscape units through time ....................................................................... 34
Figure 18: the three components of biodiversity in a landscape α, β and γ ................................ 35
Figure 19: Farm types development in Vercors (by Doumas) .................................................. 38
Figure 20: characterise the fodder systems and the types of grassland .................................... 39
Figure 21: driving forces analysis and how it should be determined by the understanding of HNV development as a focal point .................................................................................. 40
Figure 22: using the logical organisation of the BA to explicitly set the problems .................... 45
Figure 23: using the logical organisation of the BA to set the HNV vision and identify the needs for innovation .................................................................................................................................. 47
Figure 24: A reminder of the Gant chart of WP1 in the ”shaping” phase of HNV Link for LA only ...... 48
Figure 25: A visual support for the November deadline: what questions? what material? .......... 50
Table 1: synthesis of biodiversity issues in the LA (as displayed by Doumas) 28
Box 1: farming systems / agrarian systems ........................................................................ 36
Box 2: check-list of possible second order explanatory variables ........................................ 41
8 APPENDIX: THE QUESTIONNAIRE SENT TO LEARNING AREAS’ COORDINATORS

0. IDENTIFICATION

Q0a. Name of the LA

Q0b. Country

Q0c. Name of the LA coordinator (who filled the questionnaire)

Q0d. Email

1. PRELIMINARY QUESTION

Q1a. Is the working document attached to this questionnaire clear enough? Does it provide a good understanding of what is aimed in the provision of your LA assessment? Are you happy with the structure of the reasoning behind it?

Q1b. Do you have any comment for its improvement?

2. DELINEATING THE LA

Q2a. Is there a clear boundary of your LA (visible on a map)?

Yes/No

=> If yes:

Q2b1. What are the criteria for setting the boundary? (physical, administrative, historical, ...)

Q2b2. What is the size of the LA in total? (ha)
Q2b3. What is the usable agricultural area of the LA? (ha)

Q2b4. What is the number of farms in the LA? (rough estimate if necessary)

Q2b5. What is the overall population in the LA? (rough estimate if necessary)

Q2b6. Is it a consistent LA or a complex/composite one?

=> If no:

Q2c. On what basis/criteria do you plan to set the boundary of the LA?

3. INSTITUTIONAL AND ACTORS SITUATION RE INNOVATION

Q3a. Is there already an innovation process in the LA, labelled as such?

Yes/No

If yes:

Q3b1. How old is it? How was it launched?

Q3b2. Does it cover the whole LA or only a part of it? (does it give a comparison)?

Q3b3. Does it address HNV conservation in a satisfactory way?

If no:

Q3c1. Is there a process launched at the same time as HNV LINK?
SITUATION RE THE PROVISION OF THE BASELINE ASSESSMENT

4. General
Q4. Is HNV LINK as a project already identified as a promising initiative by influential actors in the LA? (Is there a kind of expectancy and commitment for HNV LINK or is it mostly a project that needs to prove its worth? Can we expect active support from LA leaders for data provision? For the organisation of expert meetings?)

5. Agroecological assessment
Q5a. Is there existing expertise/data/knowledge on habitats and biodiversity in your LA?

   In the form of existing synthetic documents (reports, documentaries...)
   In the form of existing expertise, but still scattered
   Other

Q5b. Can it be easily mobilised in the course of the assessment?

Q5c. Is it complete for the provision of an overall characterisation of the dynamic of habitats in the LA for the last decades?

Q5d. Is it complete for the provision of an overall understanding of the dynamic of habitats in the LA
for the last decades? (factors explaining the dynamic in relation with farming)

6. Farming systems analysis

Q6a. Is there existing expertise/data/knowledge on farming systems in your LA?

- In the form of existing synthetic documents (reports, documentaries...)
- In the form of existing expertise, but still scattered
- Other

Q6b. Can it be easily mobilised in the course of the assessment?

Q6c. Is it complete for the provision of an overall characterisation of the dynamic of farming systems in the LA for the last decades?
Q6c1. What main blind spots do you already identify?

Q6c2. To what extent can they be covered?

Q6d. Is there existing expertise/knowledge about the farmers’ sociology? (including your own expertise)

<table>
<thead>
<tr>
<th>7. Rural analysis</th>
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<tbody>
<tr>
<td>Q7a. Is there existing expertise/data/knowledge on the rural context in your LA?</td>
</tr>
<tr>
<td>In the form of existing synthetic documents (reports, documentaries...)</td>
</tr>
<tr>
<td>In the form of existing expertise, but still scattered</td>
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<tr>
<td>Other</td>
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<tr>
<td>Q7b. Can it be easily mobilised in the course of the assessment?</td>
</tr>
<tr>
<td>Q7c. Is it complete for the provision of an overall characterisation of the dynamic of rural communities in the LA for the last decades?</td>
</tr>
<tr>
<td>Q7d. Is there existing expertise/knowledge about the wider rural communities sociology? (including your own expertise)</td>
</tr>
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</table>
8. Driving forces

Note: as for the analysis of driving forces, the issue is not to have a full academic study, but a good understanding of what is taking place. Thus the following questions are asked on a more comprehensive level, in the form of a table.

<table>
<thead>
<tr>
<th>Q8a. Land tenure system</th>
<th>Is this driving force of major relevance?</th>
<th>To what extent is there an already good understanding of the influence of the driving force in your LA?</th>
<th>Do you see how to address this issue in the course of the LA assessment? (if the understanding is not good enough)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q8b. Advisory system, credit</td>
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<td>Q8c. Alternative to farming in the LA (tourism)</td>
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<td>Q8d. Agricultural markets (at different levels)</td>
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<td>Q8e. Research, technologies</td>
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<td>Q8f. Policies (CAP, hygiene...)</td>
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</table>

Q8g. Do you see driving forces missing in the above list?
9. PRACTICAL ORGANISATION OF THE LA BASELINE ASSESSMENT

Q9a. Practically, how do you anticipate the provision of the LA assessment?

- Most data and analysis already exist and are centralised and it is mostly a matter of data preparation and output
- Most data and analysis already exist but are scattered and it is mostly a matter of data collection, preparation and output
- Some fields of analysis need further investigation in the course of the assessment
- Most fields of analysis need further investigation in the course of the assessment
- Other

Q9b. Generally speaking, how confident are you in the provision of the assessment in terms of human resources? What challenge(s) do you anticipate?

10. GENERAL COMMENT

Q10. Anything else you may want to add...

For support about the questionnaire, please contact Xavier at:

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