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T4.2: Assessing how policies enable or constrain the resilience of the extensive sheep grazing system in Northeast Spain (Spain).
An application of the Resilience Assessment Tool (ResAT)

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INDEX

1	Introduction: Main farming system specific challenges	3
2	Data	4
3	Analysis and Stakeholders’ check	5
4	Stakeholder check. Report of the stakeholder check.	22
5	Overall analysis	24
6	Reference list	25
7	List of Annexes:	26

1 Introduction: Main farming system specific challenges

The number of sheep farms in Aragón has declined over the last twenty years from 8,635 farms in 1995 to 3,392 farms in 2016. Our case study region is the county “Hoya de Huesca”, where the decline has been even more acute. Just the 40% of farms have remained active in the sector (Gobierno de Aragón, 2016). The extensive livestock farming in the “Hoya de Huesca” has to face several social, economic, environmental and institutional challenges.

One of the main social challenges is the national meat consumption reduction. The national markets are the main markets of the sheep meat production in the case study region. The beef meat consumption has declined the 25% between the 2008 and 2016. The current sheep meat consumption is 1.6 kg/ per capita (Martin Cerdeño, 2018).

According to the information collected from interviews with farmers and case study region stakeholders, one of the main challenges is that the livestock farming image is deteriorating. The consumers are moving to reduced meat-based diets. They are aware of lower meat consumption health recommendations, animal welfare and livestock’s contribution to climate change. In parallel, the livestock farming employment is losing attractiveness. It is labour intensive and it does not allow farmers to take holidays. Indeed, there is a much smaller number of farmers – or people with knowledge and/or practical experience - to work together and take care of the cattle. The reduced interest in remaining in the extensive livestock sector is related to additional social challenges such as rural areas depopulation, aging population and reduced access to social services (education, health and infrastructures).

Several economic challenges have been identified in the extensive livestock farming in the case study region. The most important is the low profitability. While the meat prices remained between the 1999-2008, the costs (mainly feed and labour) have experienced an 8% increase in the same period (Gobierno de Aragón, 2010). This trend has continued in the following years. Extensive farming relies to a large extent upon the CAP payments. In addition, the extensive livestock farming has to deal with an increasing land access competence. More profitable farming sectors, as intensive farming sector, are pressuring the land demand and increasing land prices. In many cases, due to the low profitability, extensive livestock farmers are not able to afford the increased land prices. This situation results in an increased dependency of the livestock complementary feeding (volatile and increasing cost).

The main environmental challenges are the droughts and wildlife. Regarding the first, more likely and longer droughts result in lower quantity and quality of pastures. The extensive livestock farmers have to support higher costs to feed the animal. Extensive livestock farmers find two challenges regarding the wildlife: 1) diseases (mainly tuberculosis) are transferred from wild animals (roe deer and wild boar) to livestock; 2) wild animals such as wolf and bear attack cattle. Additional environmental challenge is the natural parks environmental protection. It is constraining the extensive farming activity because it limits somewhat the cattle access area.

Finally, regarding institutional challenges it is worth mentioning the changing agricultural policy goals and their impact on CAP payments, the increasing bureaucracy in administrative processes and controls requirements.

2 Data

List of selected policy documents – including references and sources (e.g. permalink).

- Doc 1.- Cortes Generales. (2016). Diario de sesiones del congreso de los diputados. Agricultura, alimentación y medio ambiente.
 Link: http://www.congreso.es/public_oficiales/L12/CONG/DS/CO/DSCD-12-CO-88.PDF
Speech of the Agriculture Minister about the aims and action points of the agricultural policy in the legislative term in Spain (From page 1 to 6).
- Doc 2.-. Los pagos directos de la política agrícola común (PAC) 2015-2019 en el sector ovino y caprino. MAPAMA
 Link: http://www.mapama.gob.es/es/ganaderia/temas/produccion-y-mercados-ganaderos/lospagosdirectosenelovinoycaprino_tcm30-58890.pdf
Description of the direct payments in sheep and goat sector.
- Doc 3.-Los pagos directos de la política agrícola común (PAC) 2015-2019 en el sector vacuno de carne. MAPAMA
 Link: http://www.mapama.gob.es/es/ganaderia/temas/produccion-y-mercados-ganaderos/lospagosdirectosenelvacunodecarne_tcm30-58876.pdf
Description of the direct payments in beef cattle sector.
- Doc 4.-European Parliament.(2018). Second Pillar of the CAP: Rural Development Policy
 Link: [http://www.europarl.europa.eu/RegData/etudes/fiches_techniques/2013/050206/04A_FT\(2013\)050206_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/fiches_techniques/2013/050206/04A_FT(2013)050206_EN.pdf)
Description of the measures to include in the Rural Development program by Member States.
- Doc 5.- European Commission.(2017). The EU explained: Agriculture. The EU's Common Agricultural Policy (CAP): for our food, for our countryside, for our environment.
 Link: <https://publications.europa.eu/en/publication-detail/-/publication/f08f5f20-ef62-11e6-8a35-01aa75ed71a1>
Description of the CAP and why it is important to meet the challenges ahead.
- Doc 6.-European Commission. (2013). CAP Reform-an explanation of the main elements.
 Link: http://europa.eu/rapid/press-release_MEMO-13-621_en.htm
Description of the direct payments, market regulation mechanisms and rural development.
- Doc 7.-The CAP towards 2020. (2010): Meeting the food, natural resources and territorial challenges of the future, European Commission
 Link: https://ec.europa.eu/agriculture/sites/agriculture/files/cap-post-2013/communication/com2010-672_en.pdf
Description of the CAP reform 2014-2020. Its objectives for the future, future instruments and policy options.
- ORDEN DRS/1247/2018, de 5 de julio, por la que se establecen las bases reguladoras para la concesión, en régimen de minimis, de subvenciones para la adaptación de la ganadería extensiva a los retos ambientales y a los desafíos socioterritoriales.
 Link: <http://www.boa.aragon.es/cgi-bin/EBOA/BRSCGI?CMD=VEROBJ&MLKOB=1032972823333>
Regulatory bases of the aids to reconcile the livestock activity with the existence of populations of wolves and bears in Aragón, BOA (2018).

- Doc 9.-ORDEN DRS/57/2016, de 28 de enero, por la que se aprueban las bases reguladoras de las subvenciones en materia de pagos a zonas con limitaciones naturales u otras limitaciones específicas, en el marco del Programa de Desarrollo Rural para Aragón 2014- 2020, Boletín Oficial de Aragón (2016)

Link: <http://www.boa.aragon.es/cgi-bin/EBOA/BRSCGI?CMD=VEROBJ&MLKOB=894059043838>
The regulatory bases of subsidies regarding payments to areas with natural limitations or other specific limitations in Aragón.

3 Analysis and Stakeholders' check

Interpretation and scoring of the data (in English) (Table 5). Arguments regarding the scoring (in English) (Table 5).

The following Table 5 summarizes the interpretation and scoring of the data. The assessment in Spanish is in Annex 1.

Table 5_ ResAT Assessement

QUESTION	SCALE (0-5)	ARGUMENTS
ROBUSTNESS		
1a. To what extent is a focus on the short-term enabled or constrained by the policy goals?	5	<p><i>The public sector plays in ensuring income stability for farmers (European Commission, 2017, pp.5-7)</i></p> <p>The stability refers to smoothing excessive annual variations in income caused by factors beyond the control of farmers and it has been a traditional objective of CAP. In top of that the reference to the action of public sector covers a vast part of CAP strengthening its short term orientation. Score 5: Enabling.</p>
1b. To what extent is a focus on the short-term enabled or constrained by the policy instruments?	5	<p><i>“Optional for member states, any farmer claiming support may decide to participate in the small farmer scheme and thereby receive an annual payment.” (European Commission, 2013, pp.3)</i></p> <p><i>Support under the Basic Payment Scheme is granted to farmers that have payment entitlements upon "activation" of such entitlements. This activation is done annually by declaring eligible hectares with an accompanying number of payment entitlements. (European Commission, 2016, pp.2)</i></p> <p><i>Los sectores ovino y caprino disponen de dos ayudas asociadas diferentes cada uno. Estas ayudas se perciben en forma de pago anual por animal (MAPAMA, 2015b, pp.1).</i></p> <p><i>El importe del pago para jóvenes agricultores se calculará cada año (doc.2/3-pag 2)</i></p> <p>There are many short term instruments such as direct payments, coupled payments, small farmer scheme, and annual young farmer payments to face short-term challenges, usually year by year, without facing problems structurally. Some of them do not benefit all farmers but overall most of them receive some kind of payment.</p> <p>The collection of annual subsidies determines the design of the annual productive and economic activity of the exploitation. It is a clear and very important conditioning of the annual planning. Score 5: Very enabling.</p>

<p>2a. To what extent is protection of the status quo enabled or constrained by the policy goals?</p>	4	<p><i>In some parts of Europe, farming is particularly difficult — as in hilly, mountainous and/or remote areas. It is important to keep communities alive in these regions. (European Commission, 2017, pp.5-8)</i></p> <p><i>Farmers manage the countryside for the benefit of us all. To remunerate farmers for this service to society as a whole, the EU provides farmers with income support. (European Commission, 2017, pp.5-4)</i></p> <p>Global assessment: The maintenance of a productive fabric in all European regions implies supporting the productive systems in more disadvantaged regions or remunerating the provision of public goods made by agriculture. In this way the maintenance of the status quo is allowed. Score 4: Enabling.</p>
<p>2b. To what extent is protection of the status quo enabled or constrained by the policy instruments?</p>	3	<p><i>Pago básico - En los años siguientes los agricultores deberán declarar el mismo número de hectáreas, dentro de la misma región para poder percibir el importe de todos sus derechos (MAPAMA, 2015b, pp.2-2)</i></p> <p><i>El régimen de pago básico, es un sistema de ayudas desacoplado de la producción, basado en disponer de derechos de pago ligados a una superficie agraria admisible, entendiéndose como tal aquella en la que se realiza actividad agraria, ya sea de mantenimiento o de producción (MAPAMA, 2015b, pp.2-1).</i></p> <p>The basic payment is the main instrument concerning the protection of status quo as its main objective is stabilising the income obtaining from sales on the markets. Its characteristics of decoupled of the activity and its historical origin may constrain the status quo of the farming system, guiding the change of activity and restricting the entrance of new farmers. Currently in the same farming systems there are farmers with higher basic payments rights because in the past they had ewes in addition to field crops or they cultivated crops with higher payments. This has produced the decreasing of the less profitable activities and the appearance of distortions due to existence of rights with different values in the same area, hindering for example the entrance of new farmers. This historical system has been maintained in the CAP 2014-2020, and for this reason we conclude that constrains the status quo.</p> <p><i>Los sectores ovino y caprino disponen de dos ayudas asociadas diferentes cada uno. Estas ayudas se perciben en forma de pago anual por animal que cumpla con todos los requisitos establecidos y el objetivo de las mismas es garantizar la viabilidad económica de las explotaciones y reducir el riesgo de abandono de la actividad (MAPAMA, 2015b, pp.2-3)</i></p> <p><i>El sector vacuno de carne dispone de tres ayudas asociadas diferentes. Estas ayudas se perciben en forma de pago anual por animal que cumpla con todos los requisitos establecidos y el objetivo de las mismas es garantizar la viabilidad económica de las explotaciones y reducir el riesgo de abandono de la actividad: Ayuda asociada para las explotaciones que mantengan vacas nodrizas; Ayuda asociada para las explotaciones de vacuno de cebo; Ayuda asociada para los ganaderos de vacuno</i></p>

	<p><i>de cebo que mantuvieron derechos especiales en 2014 y no disponen de hectáreas admisibles para la activación de derechos de pago básico (MAPAMA, 2015a, pp.3-3)</i></p> <p>The voluntary coupled payments enable the protection of the status quo as they pursue the maintenance of current levels of productions in sectors or regions where specific types of farming or specific agricultural sectors undergo certain difficulties, but only for specific quantities of production, a few amount and not for all products.</p> <p><i>La concesión de subvenciones para zonas con limitaciones naturales, en sus dos modalidades: pago de compensación en zonas de montaña y pago de compensación en zonas distintas de las de montaña con limitaciones naturales significativas (Boletín oficial de Aragón, 2016). Las subvenciones concedidas con base en esta orden tienen como objetivo compensar a los agricultores y ganaderos por los costes adicionales y las pérdidas de ingresos como consecuencia de las limitaciones que supone la producción agraria en determinadas zonas con limitaciones naturales. El objetivo final es evitar el riesgo de despoblación y abandono de dichas zonas (Orden ministerial_Zonas desfavorecidas_Aragón).</i></p> <p>The policy provides also subsidies for areas with relevant natural limitations and in such way the status quo of farmers and farming in these areas are strongly enhanced.</p> <p><i>A protected geographical identification denotes a food linked by its quality and reputation to a region in which at least one stage of production took place. (European Commission, 2017, pp. 13).</i></p> <p>The geographical identifications guarantee protection to traditional production systems, supporting a quality based in local origin and resources. It is considered that they encourage the maintenance of traditional systems since their objective is to value these productions and allow their preservation through a higher price or an improvement in their image that increases sales.</p> <p>Global assessment: There are a wide variety of policy instruments that enhance the status quo. Basic payment is one of the most important instruments among those identified. Decoupled payments in our case study region is constraining the status quo. The different basic payments received by farmers according to their historical (and not current) rights (sheep heads in the past) is getting some farmers out</p>
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		of the sector because those with lower historical rights are not able to compete with those with those with higher historical rights. For this reason, we assess that instruments slightly enable the status quo (score 3).
3a. To what extent is the development of buffer resources enabled or constrained by the policy goals?		
3b. To what extent is the development of buffer resources enabled or constrained by the policy instruments?	2	<p><i>dirigidas a paliar sobrecostes derivados de las situaciones de riesgo provocadas por la presencia de estas especies y a la adopción de medidas de autoprotección como incentivos a la sostenibilidad de las explotaciones ganaderas en régimen extensivo y, con ello, a la adaptación de las mismas a los retos ambientales y a los desafíos socio-territoriales (Gob. Aragón, 2018 p.p 146)</i></p> <p>Additional resources are allocated to deal with wolf attacks. Farmers have additional resources to deal with short-term losses in case the cattle are attacked by wolves. The objective of the instrument is clearly focus on developing buffer resources, but its widespread and relevance in the case study region is low. The final score is 2</p>
4a. To what extent are other modes of managing risks enabled or constrained by the policy goals?	3	<p><i>To contribute to farm incomes and limit farm income variability, recalling that price and income volatility and natural risks are more marked than in most other sectors and farmers' incomes and profitability levels are on average below those in the rest of the economy. (European Commission, 2010, pp.7)</i></p> <p>Risk and crisis management instruments, with insurance and markets intervention, provide a safety net for farmers that allow them to maintain a market orientation in adverse situations, enabling the robustness of the system. Reduced number of references have been identified among the description of policy goals that support how policies enable/constrain these kind of instruments. For this reason, the final score is 3, Fairly enabling.</p>
4b. To what extent are other modes of managing risks enabled or constrained by the policy instruments?	3	<p><i>.. mejorar el estado sanitario y fitosanitario de nuestras producciones; reforzar todos los elementos, programas de vigilancia, registro de explotaciones, trazabilidad, lo que nos permita seguir acreditando nuestra condición sanitaria frente a nuestros socios comerciales (Tejerina I.G., 2016, pp.1-6).</i></p>

	<p>The support to maintain an adequate sanitary status of livestock allowing the selling of their productions in adequate conditions and maximizing their levels of productivity. It allows facing several challenges such as the increase of diseases or the reduction of meat consumption, which could be accelerated by higher frequency of episodes of diseases. The sanitary payments should remain even if the disease eradication is reached to avoid cancelling other related activities that are enabling the farmers' robustness. Sanitary payments have declined more than fifty percent over last years and they are mainly focused on intensive livestock farming.</p> <p><i>Risk management toolkit: crop, livestock, and plant insurance; mutual funds for adverse climate events, animal and plant diseases, pest infestations and environmental incidents; income stabilisation tool...</i>” (European Parliament, 2018, pp.3).</p> <p><i>Es fundamental el apoyo al sistema de seguros que se ha consolidado como un instrumento clave para estabilizar la renta de los agricultores y ganaderos españoles (Tejerina I.G., 2016, pp.1-4) .</i></p> <p>The support to insurances is assessed also important to assure the robustness of livestock systems as they allow the transfer of production risks covering of losses caused by adverse events. Insurances are getting more and more relevance among the farmers.</p> <p><i>The European Commission can take measures to deal with difficult market situations (European Commission, 2017, pp 5-7). new safeguard clauses are introduced for all sectors to enable the Commission to take emergency measures to respond to general market disturbances –such as the measures taken during the e-coli crisis in May-July 2011. These measures will be funded from a Crisis Reserve financed by annually reducing direct payments. Funds not used for crisis measures will be returned to farmers in the following year. In case of severe imbalance in the market, the Commission may also authorise producer organisations or inter branch organisations, respecting specific safeguards, to take certain temporary measures collectively (for example market withdrawal or storage by private operators) to stabilise the sector concerned.(European Commission, 2013, page 4).</i></p> <p>Market measures imply also certain grade of risks management specially to face market crisis, avoiding catastrophic losses and providing a safety net that allows them to continue in the activity</p> <p>Global assessment: Several CAP instruments provide coverage for production and market risks constituting a safety net that avoids the exit of the activity and enhances the robustness. The overall</p>
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		analysis leads us to give this section the final score 3 based on the following reasons: (i) The penetration and relevance of these instruments is low in the case study regions. Most of the farmers in the region do not take insurance instruments and market measures are not applied; (ii) The budget allocated for preserving sanitary situation has been reduced during the last years and nowadays farmers are able to access to lower sanitary services than they are used to; (iii) these instruments may enhance the status quo but we find they enable the adaptation in a greater extent.
ADAPTABILITY		
1a. To what extent is a focus on the middle-long term enabled or constrained by the policy goals?		
1b. To what extent is a focus on the middle-long term enabled or constrained by the policy instruments?	3	<p><i>“In order to encourage generational renewal, the Basic Payment awarded to new entrant Young Farmers should be topped on by an additional payment available for a period of maximum 5 years.” (European Commission, 2013, pp.2)</i></p> <p>The generational renewal encourages the adaptation of systems to the extent that older people are more likely to undertake changes and modernize production systems. The low entry of young farmers and the general aging of current farmers, affect almost all the agricultural sector. This phenomenon runs along the years, becoming a challenge affordable only on the middle-long term. The additional payment is granted by a maximum of five years which comply with a middle-long term view of the policy.</p> <p>The aim of the instrument clearly contributes to enable the middle-long focus. The relevance of this instrument in the case study is low mainly explained by the fact that the amount perceived is not enough to cover first investment needs and attract attention of new entrants. The number of young farmers remains in low levels. These reasons bring us to give a 3 as a final score: Fairly Enabling.</p>
2a. To what extent is flexibility enabled or constrained by the policy goals?	5	<p><i>“...it will be up to member states/regions to decide which measures they use (and how) in order to achieve targets set against six broad priorities.” (European Commission, 2013, pp.6)</i></p> <p><i>“...the CAP promotes agricultural practices such as safeguard of the scenic value of the landscape. Protecting biodiversity and wildlife habitats, managing water resources and dealing with climate change are other priorities..” (European Commission, 2017, pp.9)</i></p>

		<p><i>“Farm modernisation has always been, and still is, an important CAP objective.” (European Commission, 2017, pp.11)</i></p> <p><i>The Commission has established three overarching priorities for rural development policy:</i></p> <p><i>1.Fostering agricultural competitiveness</i></p> <p><i>3. Achieving balanced territorial development of rural economies and communities, including the creation and maintenance of employment.(European Parliament, 2018, pp.4-1)</i></p> <p>European regions have the flexibility to decide what measures and how use them to achieve targets according to competitiveness and employment priorities. The modernisation allows farming systems to adapt to different situations in different ways adapted to specific characteristics and needs.</p> <p><i>Nuestro objetivo final debe ser seguir garantizando unas condiciones de estabilidad adecuadas para nuestro sector agrario. Ello pasa por introducir los ajustes necesarios en el modelo actual, sin que ello suponga una ruptura del mismo. (Tejerina I.G., 2016, pp.1-4), debemos favorecer el cambio gradual hacia una agricultura más competitiva, más orientada al mercado e internacionalizada (Tejerina I.G., 2016, pp.1-4)</i></p> <p>The flexibility is very enabling with the objective of encouraging the persistence of the current model thanks to adjustments and modifications.</p> <p>Global assessment: The flexibility of responses and implementation of measures considered in the policy goals enable the farmers’ flexibility capacity. Score 5: very enabling</p>
2b. To what extent is flexibility enabled or constrained by the policy instruments?	4	<p><i>The CAP helps young people to get started in farming with funds to buy land, machinery and equipment. It also provides grants to train both new and established farmers in the latest technical production methods. (European Commission, 2017, pp.5-8).</i></p> <p>It could enhance the flexibility of the system because support the investments adapted to the needs and plans of the farmers in different activities. However, some activities as intensive livestock do not receive any support. In our case study, there is a debate about the profile of the new young entrants and how they contribute to the sector’s flexibility. The inheritance is almost the unique way to start the activity because of the land price and the historical payments received just by farmers active in the sector for a</p>

		<p>long time. The majority of young farmers are farmers' descendants and they start the activity following their parents' way of managing the farm and with no high /specialized education. This results in a lower flexibility than expected.</p> <p><i>“..the EU plans to make available to farmers almost 4 million places on training courses and 1.4 million advisory sessions with a focus on economic and environmental performance farms.” (European Commission, 2017, pp.12)</i></p> <p>The policy provides advisory services and training courses adapted to the needs and demands of farmers, which improve the knowledge of the farmers and, therefore, their ability in setting new solutions up. However, in the case study region, in many cases the training courses are too theoretical and not suits to the practical demands of farmers.</p> <p><i>Many EU farmers have benefited from grants to modernise their farm buildings and machinery. Others have made use of grants to improve the quality of their livestock and the conditions under which they are reared</i></p> <p>Support for modernization provided by the policy also seems to be one of the main instruments to enhance the flexibility; it favors the flexibility of the farmers in finding adapted solutions to specific challenges but it does not guarantee the application and introduction of flexible solutions. In the farming system, these kind of instruments are widely used among the farmers.</p> <p><i>“Rural development measures. ...member states have the flexibility to address the issues of most concern within their respective territory reflecting their specific economic, natural and structural conditions.” (European Commission, 2017, pp.7)</i></p> <p>Regional governments have the possibility to design their Rural Development Programs including measures adapted to their respective necessities and challenges. By giving the flexibility to the National and Regional Authorities to address the policy's tools towards the local issues, the policy enhances the flexibility of the farming systems, making possible the application of flexible measures for specific issues. However, the list of possible measures is limited and it is not possible to include other measures. No additional extensive farming measures have been implemented by the regional government.</p>
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	<p><i>el Observatorio de la cadena alimentaria llevará a cabo actuaciones dirigidas a mejorar la transparencia de los mercados, ofreciendo periódicamente a los operadores la mejor información disponible relativa a las transacciones que se realizan a lo largo de toda la cadena (Tejerina I.G., 2016, pp.1-4)</i></p> <p>Providing more information helps to improve and strengthen the position of farmers in the chain. In such way the policy enables the flexibility of the farmers facilitating the adoption of measures and decision making. In the farming system, more efforts need to be done to bring the information closer to the farmers.</p> <p><i>se reforzará la integración sectorial en torno a las interprofesionales apoyando la creación de estas organizaciones en los sectores cuyas asociaciones representativas lo soliciten (Tejerina I.G., 2016, pp.1-5)</i></p> <p>The integration of sectors and the support to inter-branches make more flexible the system to cope with external events. To the extent that they structure the sector and provide common objectives for all actors, we consider it enable flexibility. Inter-branches can establish recommendations above the legal requirements that allow farmers to orient their productions to the market, adapting to the demands of quality or can promote programs aimed to the increase of the internal and external consumption.</p> <p><i>máximo desarrollo de la Ley de integración cooperativa, buscando facilitar la creación de entidades con dimensión suficientemente relevante como para dotarla de la mayor capacidad negociadora y competencia en los mercados (Tejerina I.G., 2016, pp.1-4)</i></p> <p><i>The EU helps farmers by encouraging the formation of producer organisations.... contractual relationships throughout the food chain (European Commission, 2017, pp.5-12/13)</i></p> <p>The cooperative integration and the support to the formation of producer organization allow farmers to respond challenges in flexible way, adapting to different markets situations and taking variables responses in different sectors. In our farming systems, small and low profitable farmers fall outside these initiatives.</p> <p><i>"..in order to receive their full entitlement of income support payments, farmer have to adopt environmentally sustainable farming methods." (European Commission, 2017, pp.9).</i></p>
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		<p><i>Enhancement of environmental performance of the CAP through a mandatory “greening” component of direct payments. (European Commission, 2010)</i></p> <p>In order to receive the full payments, farmers have to adopt environmental sustainable farming methods implemented the “conditionality” and “greening” components of the income support. The green payments set limited flexibility because it is a mandatory initiative that marks the path that farmers have to follow rather than providing them with greater flexibility. For example, farmers have to adopt diversification and the only flexibility they have is to choose the crops to diversify. In top of that, greening payments can constraint the livestock activity as in fallows is not allowed the pasture. For these reasons, these tools are supposed to imply neutral effects for the flexibility of the system.</p> <p>Global assessment: Many CAP instruments support the adaptation through flexible responses but some constraint the adaptation as the prohibition of investments in intensive livestock or the difficulties to implement the equivalent practices in the green payments. Score 4: enabling</p>
3a. To what extent are variety and tailor-made responses enabled or constrained by the policy goals?	4	<p><i>Protecting biodiversity and wildlife habitats, managing water resources and dealing with climate change are other priorities that farmers are required to respect. (European Commission, 2017, pp.5-9)</i></p> <p>Protecting the environment and dealing with climate change requires solutions adapted to local conditions and this local character is recognized in the policy, so we asses that this goal contributes to establish tailor-made responses.</p>
3b. To what extent are variety and tailor-made responses enabled or constrained by the policy instruments?	3	<p><i>Preservation of farming practices which have a beneficial effect on the environment and climate and foster the necessary changes (agri-environment-climate measures). (European Parliament, 2018, pp.4-3)</i></p> <p>The preservation of some farming practices enables the variety of responses. The measures may be designed at the national, regional, or local level so that they can be adapted to particular farming systems and specific environmental conditions in order to achieve environmental and climate goals</p>

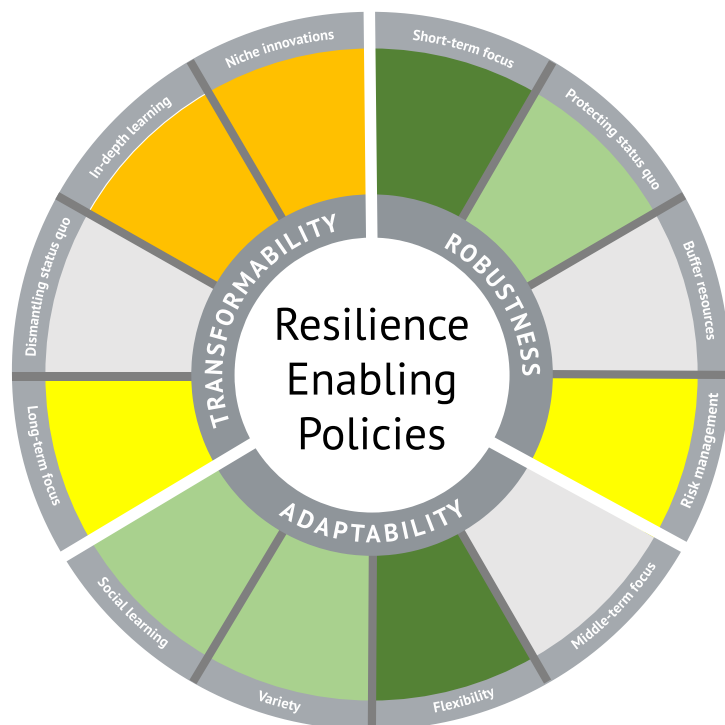
		<p><i>Many sites (Natura 2000) are on farmland and the farmers undertake to manage the land in a specific manner so that the biodiversity is maintained. (European Commission, 2017, pp.5-10)</i></p> <p>On the contrary, the conservation of natural spaces, as well as the limits of access to certain areas and the protection of wildlife can constraints the response capacity of the farm and can affect negatively the variety of responses to the extent that restrictions can be imposed on the activity.</p> <p>In the case study region, farmers feel that they are not able to implement the measures that best fit with their activity, the variety of responses is decreasing and limiting their adaptability capacity. For this reason the score is 3: Fairly enabling.</p>
4a. To what extent is social learning enabled or constrained by the policy goals?	4	<p><i>Encouragement of cooperation between farmers and forestry operators and those involved in the food production chain (establishment of centres and networks, operational groups of the European Innovation Partnership for Agricultural Productivity and Sustainability(EIP) (European Parliament, 2018, pp.4-3)</i></p> <p>Cooperation among all actors in the agricultural system is pursued to the extent that social interactions can contribute positively to the adaptation of system. Score 4: Enabling.</p>
4b. To what extent is social learning enabled or constrained by the policy instruments?	3	<p><i>"..the Leader approach encourages local people to address local issues". (European Commission, 2017, pg.7)</i></p> <p><i>"The Rural development regulation sets out a bottom-up local development approach pursued by local stakeholders (the LEADER approach). " (European Parliament, 2018, pp.3)</i></p> <p>The Leader is the main instrument which enhances the social learning process. It "encourages local people to address local issues" in a bottom-up approach without implying a change in paradigms, and making easier the adaptation of the overall system to external challenges.</p> <p><i>"Innovation: will be served by various rural development measures such as knowledge transfer, cooperation..." (European Commission, 2013, pp.7)</i></p> <p><i>"a knowledge-based agriculture": Strengthened measures for Farm Advisory Services (also linked to climate change mitigation and adaptation, to environmental challenges and to economic development and training) (European Commission, 2013, pp.6-5)</i></p>

		<p>The measures regarding innovation, knowledge transfer and the cooperation enable the social learning by allowing the farmers to adapt to changes and solutions which they didn't know before. Despite these instruments are not likely to get a large application in the farming system the improvement in those fields and the variety of measures proposed should enhance social learning in the farming system.</p> <p>Global assessment: Social learning is implemented only in rural development but there are limitations for investments in the agricultural sector. In top of that, there is yet many room for improvement in market policies. Score 3: Fairly enabling</p>
TRANSFORMABILITY		
1a. To what extent is a focus on the long term enabled or constrained by the policy goals?	3	<p><i>In the future, our farmers will have to produce more with less.(European Commission, 2017, pp.5-11)</i> <i>In the coming decade our farmers will become more efficient and more competitive.(European Commission, 2017, pp.5-11)</i></p> <p>The objective of the sustainability is related with preserving resources for future generations and so implies a long-term vision of agriculture. The competitiveness and the efficiency are difficult to get in short period of time and for this reason we consider that are also goals to be achieved in the coming decade. Score 3: Fairly enabling.</p>
1b. To what extent is a focus on the long term enabled or constrained by the policy instruments?	2	<p><i>"...Member states or regions will continue to design their own multiannual programmes on the basis of the menu of measures available at EU level.." (European Commission, 2013, pp.6)</i></p> <p>There is no clear orientation of the CAP instruments towards support long term actions. Although the term of the measures is 7 years, the effect of rural development measures included in the multiannual programmes are more oriented to the adaptation than transformation where the focus is very Score 2: Slightly enabling</p>
2a. To what extent is the dismantling of incentives that support the status quo enabled or constrained by the policy goals?		

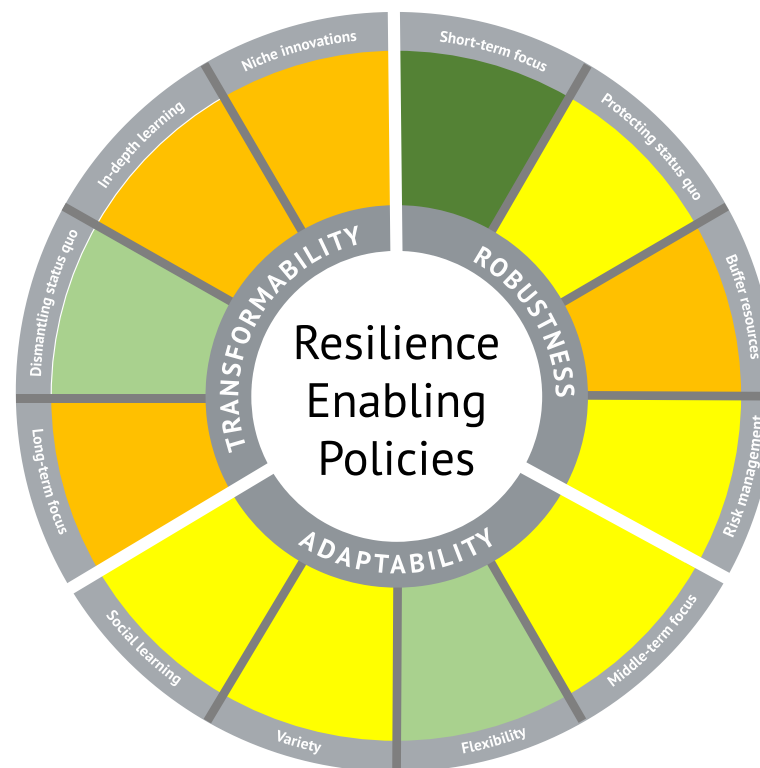
2b. To what extent is the dismantling of incentives that support the status quo enabled or constrained by the policy instruments?	4	<p><i>With milk quotas, expiring in 2015, the reform foresees the end to the sugar quota regime on September 30, 2017(European Commission, 2013, page 5).</i></p> <p>The milk quotas were a strong and significant policy in the past years but were dismantling in 2015. This decision caused an important transformation of the dairy system, with the departure of farms that, in part, were transformed into beef cattle farms. We assess that this instrument enables the transformation. Score 4: Enabling.</p>
3a. To what extent is in-depth learning enabled or constrained by the policy goals?	2	<p><i>Fostering knowledge transfer and innovation in agriculture, forestry and rural areas. (European Commission, 2013b)</i></p> <p>The transfer of knowledge and innovation represent an opportunity for learning but this does not have to imply a radical change of the paradigm and a transformation of the system, but more frequently an adaptation to new circumstances. Therefore, we value that it is slightly enabling (Score 2).</p>
3b. To what extent is in-depth learning enabled or constrained by the policy instruments?	2	<p><i>This could be achieved through the development of instruments, such as innovation partnerships, to promote innovation in agriculture by bridging the existing gap between research and farming practice and facilitating communication and cooperation among stakeholders (farmers, advisers, agro-business, scientists, administrations and others).(European Commission, 2017, pp.5-11)</i></p> <p>Innovation partnerships favor the relationship among stakeholders and, mostly, between farmers and experts, such as researchers. This should contribute to enhance in-depth learning, by helping farmers in finding new ideas suited to local problems and consequently in transforming their systems, although other adaptation responses are also possible.</p> <p><i>the CAP is improving access to high-speed technologies in rural areas and, by so doing, is contributing to one of the Commission's top 10 priorities — a connected digital single market (European Commission, 2017, pp.5-4)</i></p> <p>A connected digital single market in the rural areas is a necessary but not sufficient condition to achieve system transformation</p>

		Though the goal of these policy instruments is focus on enabling in-depth learning, in the farming system they are not enough relevant to enhance the transformability capacity. The final score is 2, slightly enabling
4a. To what extent is the enhancement and acceleration of niche innovations enabled or constrained by the policy goals?	2	<p><i>To foster green growth through innovation which requires adopting new technologies, developing new products, changing production processes, and supporting new patterns of demand, notably in the context of the emerging bioeconomy. (European Commission, 2010, pp.7)</i></p> <p><i>Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable management of forests. (European Commission, 2013b).</i></p> <p>The innovation and the support to emerging activities as those related with the bioeconomy are present in the policy objectives although they are not included in the main objectives. Score 2 Slightly enabling.</p>
4b. To what extent is the enhancement and acceleration of niche innovations enabled or constrained by the policy instruments?	2	<p><i>This key theme (and more specifically the planned European Innovation Partnership for Agricultural Productivity & Sustainability – the "EIP") will be served by various rural development measures such as "knowledge transfer", "cooperation" and "investments in physical assets". The EIP will promote resource efficiency, productivity and the low-emission and climate-friendly/-resilient development of agriculture and forestry. This should be achieved, inter alia, through greater cooperation between agriculture and research in order to accelerate technological transfer to farmers;(European Commission, 2013 p 5).</i></p> <p>The EIP should enhance the niche innovations through a number of tools which should guarantee an overall innovation of the system. Instruments such as knowledge transfer and cooperation measures accelerate technological transfer to farmers, and the investments in physical assets measures enable farmers to put in practice their innovative ideas. It requires an active response from the farmers and it is not specific to the acceleration of niche innovations so we assess as slightly enabling (Score 2).</p>

GOALS



INSTRUMENTS



The first wheel (on the left) is the Policy Goals ResAT wheel. It represents in what extent the three resilience capacities – robustness, adaptability and transformability- and their characteristics are enabled or constrained by the policy goals. Regarding this Goal ResAT wheel the prevalence of the green tones in the right and the bottom side of the wheel shows that policy goals are oriented in a greater extent towards enhancing robustness and adaptability capacity. Policy goals enhance robustness first by highlighting the short-term robustness characteristic (dark green) and by protecting the status quo (light green). Risk management tools are fairly enabled by policy goals (green colour). No references have been found to assess how buffer resources are enabled or constrained by policy goals (no colour). Policy goals enhance the adaptability capacity by very enabling the flexibility (dark green) and enabling the variety and tailor-made response and social learning (light green). No references have been found to assess the middle-term focus adaptability characteristic (no colour).

The yellow and orange colours in the left side of the policy goals wheel show that policy goals are focussed in a lower extent towards enhancing the transformability capacity than robustness and adaptability ones. Policy goals hardly enable in-depth learning and niche innovation (orange colour) and fairly enable the long-term transformability characteristic (yellow colour). No references have been identified regarding Dismantling Status Quo

The second wheel (on the left) is the Instruments ResAT wheel. It represents in what extent the three resilience capacities – robustness, adaptability and transformability- and their characteristics are enabled or constrained by the policy instruments. Regarding this wheel, the prevalence of the yellow and oranges colours around the whole wheel show that policy instruments enhance the resilience of the farming system in a lower extent that policy goals do. Yellow colours (fairly enabling) in the right and the bottom of the wheel and orange colours in the left part (slightly enabling) show that robustness and adaptation capacity are enabled by policy instruments in a greater extent than transformation capacity.

Regarding the robustness, the only characteristic that is very enabled by the policy instruments is the short-term characteristic (dark green). The status quo protection and risk management measures are fairly enabled by policy instruments (yellow colour) and buffer resources are slightly enabled (orange colour). Most of the adaptability characteristics (middle-term, variety and tailor-made responses and flexibility) are fairly enabled by policy instruments. Just the flexibility is enabled in a greater extent by the policy instrument (light green). Finally, among the transformability characteristics, it is worth to highlight the measures to dismantling the status quo enabled by the policy instruments. The rest of the characteristics -long-term, in-depth learning and niche innovation - are slightly enabled by policy instruments.

4 Stakeholder check. Report of the stakeholder check.

The RESAT assessment performed by the UPM team has consisted of five steps:

- First assessment made by main ResAT researchers (previous scale), from the 1st May to 22nd June: Isabel Bardají, Bárbara Soriano and Daniele Bertolozzi.
- UPM team (five researchers) meeting to share and discuss the first assessment results (previous scale). It was held the 25th June 2018 at the UPM (Madrid).
- ResAT Workshop with stakeholders to share and discuss the UPM assessment results (previous scale).
- UPM team meeting to adapt the previous scale to the new scale (5th of July 2018).
- Consultation on re-scaling to the stakeholders who attended the workshop (12-13th of July 2018).

The ResAT workshop was held the 2nd of July 2018 in Huesca, 12:30h-14:30h. Six people were invited to participate in the workshop (Annex 2-List of participants):

- Four people from the Regional Agricultural Authority in Huesca.
- Regional Policy maker (Aragón)
- The Director of the Faculty of Agricultural ingeniering of Huesca

Four UPM researchers attended the workshop. A presentation (Annex 3_Workshop presentation) was prepared to explain to the stakeholders the ResAT tool and show them the first results of the assessment - regarding UPM scores and arguments- and get some feedback from them.

Stakeholders actively participated during the meeting. The main hotspots debated with the stakeholders during the meeting area, by resilience capacity, are explained below:

Robustness:

1. The greater attention was paid to how robustness and the protection of the **status quo** may be enhanced/constrained by the policy instruments. The overall conclusion is that policy instruments slightly enable the status quo
 - There is a great consensus about the fact that after the payments decoupling many farmers have been forced to close their farms because farmers with no historical rights (after decoupling) are not able to compete with those farmers who are perceiving greater payments because they had a large number of sheep in the past (but not now). Many farmers receiving decoupled payments have decided to move to more profitable agricultural sectors (cattle or pigs) and those who remains with lower payments have to deal with low profitability and are planning to leave.
 - The stakeholders claim that the basic payments need to be redefined and support extensive farming specifically.
 - In addition, many pasture hectares used by sheep farmers are not considered to received PAC payments, reducing the amount perceived by sheep farmers.

- Some payment per animal is still perceived by the sheep farmer in the region, but the amount is low and the impact on the status quo is not relevant.
 - The stakeholders consider that the disfavoured area payment is an important policy instrument to protect the status quo in the farming system (proper amount and high level of use among the farmers).
 - In some cases, the impact of the instruments that aim at the renovation of the villages, landscape preservation or cultural heritage projects sometimes is not as expected. The livestock farming is moved out from beautiful villages with increasing tourism.
 - The Geographical Protected Indication is really welcomed by the stakeholders. It contributes to improve the quality and image of the livestock production.
- 2. Regarding **buffer resources**, a new instrument has just been issued in the region to support the farmers to deal with the wolf attacks. It is a good initiative but its impacts on farmers' robustness are still pending to know.
New buffer resources instruments need to be designed to deal with droughts.
- 3. Regarding **risk management measures** and other measures, they highlight that:
 - Risks management instruments are gaining relevance among the farmers to deal with the increasing complex challenges.
 - The sanitary payments used to be very important in the farming system. During the last years these payments has sharply decreased because of the good sanitary state in the region. Some related services have disappeared and it is affecting negatively the robustness of the sector.

Adaptability capacity:

1. Regarding the **flexibility** and the young entrant instrument the stakeholders point that there is no specific measure to prioritize the entry in the sheep sector as there used to be.
 - It is really difficult that young people (non- descendants) become a farmer because of the decoupled payments received by the previous installed farmers and the high price of land. Currently, the inheritance is the only way to enter in the sector.
 - Farmers do not fully benefit from the advisory sessions. Training courses still need to response the real farmer's needs. The content of the courses is mainly theory instead of practice.
 - Important efforts have been performed to create inter-branch organizations. Its presence in the farming system is important and it has contributed to keep the sheep meat consumption in sustainable levels.
 - Some environmentally sustainable farming methods proposed limits the flexibility of the faming systems, i.e. the direct sowing and fallow are not

compatible with pastoralism. Some measures focused on sheep sector has been defined but its relevance is low.

2. Regarding the variety and tailor-made response, just some instruments have been designed to support the extensive livestock in natural parks. Its relevance is low.
3. The LEADER funds play an important role in the farming system. Important research and innovation initiatives have been just implemented but their impact is still pending to assess. The first impact proved is that these instruments help to attract talent to the farming system.

Transformability capacity:

They agree that transformability capacity (and its characteristics) are enabled by instruments and goal policies in lower extent than the robustness and adaptability capacity.

Interesting niche innovations were noted by the stakeholders such as drones and virtual pastoralism.

The meeting minute and attendees list is reported (in Spanish) in Annex 4_Workshop Minute.

5 Overall analysis

The farming system mainly has to face socio-economic challenges related to the reducing sheep meat consumption, the stagnation of the sheep meat prices and increment of feeding costs and the intense labour requirement. These reasons explain the low attractiveness of the sector and its consequences such as aging farmers, lack of experienced farmers, rural depopulation and lack of social services in rural areas.

The ResAT assessment has allowed us to assess how goals and instruments enhance and constrain the resilience of the farming system considering these challenges. Policy goals enhance the resilience in a greater extent than the instruments, mainly those capabilities related to the robustness and adaptability. The same result is observed in the policy instruments assessment.

The stakeholder consultation has been key to validate this analysis and test the impact of the policies in the farming system. Clear agreement has been reached regarding the assessment of the policy goals and the need of increasing the emphasis on enabling the adaptability and transformability capacity. Interesting points have come out of the analysis of the policy instruments and how they may enhance the farming system resilience to deal with the challenges identified above: (i) A redefinition of the basic payments is needed for enabling the protection of the status quo of the sheep farmers and deal with the low sector profitability. Further attention need to be paid to encourage the new young farmer entrance and overcome the barriers to entry; (ii) the definition of instruments to enhance the greater extent the buffer resources to deal with droughts and the increasing costs of feeding; (iii) new instruments to improve the client-oriented and quality sheep production to deal with reduced demand and prices; (iv) wider variety responses that avoid the land access competition among different farming activities and enhance the adaptability capacity. Further efforts need to be focused on social learning, niche innovations and in-depth learning instruments.

6 Reference list

- Cortes Generales. (2016). *Diario de sesiones del congreso de los Diputados*. Agricultura, alimentación y medio ambiente.
- European Commission (2010). *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*.
- European Commission. (2013). *CAP Reform-an explanation of the main elements*.
- European Commission.(2017). *The EU explained: Agriculture. The EU's Common Agricultural Policy (CAP): for our food, for our countryside, for our environment*.
- European Parliament.(2018). *Second Pillar of the CAP: Rural Development Policy*
- Gobierno de Aragón (2010) *Mercado y estacionalidad de precios del ganado de ovino en Aragón*. Dirección General de Desarrollo Rural. Centro de Transferencia Agroalimentaria. Nº 222.
- Gobierno de Aragón (2016) *ORDEN DRS/57/2016, de 28 de enero, por la que se aprueban las bases reguladoras de las subvenciones en materia de pagos a zonas con limitaciones naturales u otras limitaciones específicas, en el marco del Programa de Desarrollo Rural para Aragón 2014- 2020*. Boletín Oficial de Aragón.
- Gobierno de Aragón (2017) *El ovino y el caprino en Aragón, su evolución en los últimos 20 años*. Secretaría General Técnica. Departamento de Desarrollo Rural y Sostenibilidad. Gobierno de Aragón
- Gobierno de Aragón (2018) *ORDEN DRS/1247/2018, de 5 de julio, por la que se establecen las bases reguladoras para la concesión, en régimen de mínimis, de subvenciones para la adaptación de la ganadería extensiva a los retos ambientales y a los desafíos socio-territoriales*. Boletín Oficial de Aragón.
- MAPAMA (2015) *Los pagos directos de la política agrícola común (PAC) 2015-2019 en el sector ovino y caprino*. Ministerio de Agricultura, Pesca, Alimentación y Medio Ambiente.
- MAPAMA (2015) *Los pagos directos de la política agrícola común (PAC) 2015-2019 en el sector vacuno de carne*. Ministerio de Agricultura, Pesca, Alimentación y Medio Ambiente.
- Martín Cerdeno (2018) *Consumo y gasto en carne y productos cárnicos. Evolución de la demanda y diferencias según las características de los hogares*. Distribución y Consumo. Volumen 2.

7 List of Annexes:

- Table 3. Analysis of the policy documents (in Spanish).
- Annex 2_ List of workshop attendees (on request)
- Annex 3_ Workshop presentation (on request)
- Annex 4- Workshop minute (on request)

Type of resilience	Key characteristics	Relevant texts for policy goals	Relevant texts for policy instruments
Robustness	1. <i>Short term</i>	The public sector plays in ensuring income stability for farmers (European Commission, 2017, pp.5-7)	<p>“Optional for member states, any farmer claiming support may decide to participate in the small farmer scheme and thereby receive an annual payment.” (European Commission, 2013, pp.3)</p> <p>Support under the Basic Payment Scheme is granted to farmers that have payment entitlements upon "activation" of such entitlements. This activation is done annually by declaring eligible hectares with an accompanying number of payment entitlements. (European Commission, 2016, pp.2)</p> <p>Los sectores ovino y caprino disponen de dos ayudas asociadas diferentes cada uno. Estas ayudas se perciben en forma de pago anual por animal (MAPAMA, 2015b, pp.1).</p> <p>El importe del pago para jóvenes agricultores se calculará cada año (doc.2/3-pag 2)</p>
	2. <i>Protecting the status quo</i>	<p>In some parts of Europe, farming is particularly difficult — as in hilly, mountainous and/or remote areas. It is important to keep communities alive in these regions. (European Commission, 2017, pp.5-8)</p> <p>Farmers manage the countryside for the benefit of us all. To remunerate farmers for this service to society as a whole, the EU provides farmers with income support. (European Commission, 2017, pp.5-4)</p>	<p>Pago básico - En los años siguientes los agricultores deberán declarar el mismo número de hectáreas, dentro de la misma región para poder percibir el importe de todos sus derechos (MAPAMA, 2015b, pp.2-2)</p> <p>La concesión de subvenciones para zonas con limitaciones naturales, en sus dos modalidades: pago de compensación en zonas de montaña y pago de compensación en zonas distintas de las de montaña con limitaciones naturales significativas (Boletín oficial de Aragón, 2016). Las subvenciones concedidas con base en esta orden tienen como objetivo compensar a los agricultores y ganaderos por los costes adicionales y las pérdidas de ingresos como consecuencia de las limitaciones que supone la producción agraria en determinadas zonas con limitaciones naturales. El objetivo final es evitar el riesgo de despoblación y abandono de dichas zonas (Orden ministerial_Zonas desfavorecidas_Aragón).</p> <p>Ayudas zonas desfavorecidas en Comunidad de Madrid (BOCM_2009)</p> <p>El régimen de pago básico, es un sistema de ayudas desacoplado de la producción, basado en disponer de derechos de pago ligados a una</p>

			<p>superficie agraria admisible, entendiendo como tal aquella en la que se realiza actividad agraria, ya sea de mantenimiento o de producción (MAPAMA, 2015b, pp.2-1).</p> <p>Los sectores ovino y caprino disponen de dos ayudas asociadas diferentes cada uno. Estas ayudas se perciben en forma de pago anual por animal que cumpla con todos los requisitos establecidos y el objetivo de las mismas es garantizar la viabilidad económica de las explotaciones y reducir el riesgo de abandono de la actividad (MAPAMA, 2015b, pp.2-3)</p> <p>El sector vacuno de carne dispone de tres ayudas asociadas diferentes. Estas ayudas se perciben en forma de pago anual por animal que cumpla con todos los requisitos establecidos y el objetivo de las mismas es garantizar la viabilidad económica de las explotaciones y reducir el riesgo de abandono de la actividad:</p> <p>Ayuda asociada para las explotaciones que mantengan vacas nodrizas</p> <p>Ayuda asociada para las explotaciones de vacuno de cebo</p> <p>Ayuda asociada para los ganaderos de vacuno de cebo que mantuvieron derechos especiales en 2014 y no disponen de hectáreas admisibles para la activación de derechos de pago básico (MAPAMA, 2015a, pp.3-3)</p> <p>A protected geographical identification denotes a food linked by its quality and reputation to a region in which at least one stage of production took place. (European Commission, 2017, pp. 13)</p> <p>the CAP gives farmers financial assistance to ensure that they continue working the land and to create additional jobs through the renovation of their villages, landscape preservation or cultural heritage projects and many other tasks directly or indirectly associated with farming and the rural economy (European Commission, 2017, pp.5-10)</p>
	3. <i>Buffer resources</i>		Ayudas C.Madrid ataques de lobos (BOCM_1011)
	4. <i>Other risk management measures</i>	To contribute to farm incomes and limit farm income variability, recalling that price and income volatility and natural risks are more marked than in most other sectors and farmers' incomes and	"Risk management toolkit: crop, livestock, and plant insurance; mutual funds for adverse climate events, animal and plant diseases, pest infestations and environmental incidents; income stabilisation tool..." (European Parliament, 2018, pp.3)

		profitability levels are on average below those in the rest of the economy. (European Commission, 2010, pp.7)	<p>es fundamental el apoyo al sistema de seguros que se ha consolidado como un instrumento clave para estabilizar la renta de los agricultores y ganaderos españoles (Tejerina I.G., 2016, pp.1-4)</p> <p>mejorar el estado sanitario y fitosanitario de nuestras producciones; reforzar todos los elementos, programas de vigilancia, registro de explotaciones, trazabilidad, lo que nos permita seguir acreditando nuestra condición sanitaria frente a nuestros socios comerciales (Tejerina I.G., 2016, pp.1-6)</p>
Adaptability	<i>1. Middle-long term</i>		“In order to encourage generational renewal, the Basic Payment awarded to new entrant Young Farmers should be topped on by an additional payment available for a period of maximum 5 years.” (European Commission, 2013, pp.2)
	<i>2. Flexibility</i>	<p>Otro elemento esencial para reforzar la posición de nuestro sector agroalimentario es la calidad.(Tejerina I.G., 2016, pp.1-5)</p> <p>“...it will be up to member states/regions to decide which measures they use (and how) in order to achieve targets set against six broad priorities.” (European Commission, 2013, pp.6)</p> <p>“...the CAP promotes agricultural practices such as safeguard of the scenic value of the landscape. Protecting biodiversity and wildlife habitants, managing water resources and dealing with climate change are other priorities..” (European Commission, 2017, pp.9)</p> <p>“Farm modernisation has always been, and still is, an important CAP objective.” (European Commission, 2017, pp.11)</p> <p>The Commission has established three overarching priorities for rural development policy:</p> <ol style="list-style-type: none"> 1.Fostering agricultural competitiveness 3. Achieving balanced territorial development of rural economies and communities, including the creation and maintenance of employment.(European Parliament, 2018, pp.4-1) 	<p>“Rural development measures. ...member states have the flexibility to address the issues of most concern within their respective territory reflecting their specific economic, natural and structural conditions.” (European Commission, 2017, pp.7)</p> <p>“..in order to receive their full entitlement of income support payments, farmer have to adopt environmentally sustainable farming methods.” (European Commission, 2017, pp.9)</p> <p>“In this regard, the EU’s Natura 2000 programme is relevant...is aimed at protecting Europe’s biodiversity.” (European Commission, 2017, pp.9) (get more information)</p> <p>De los más de 2.500 Km2 de superficie que abarca la demarcación comarcal, un 24 % (59.362 ha) comprende Lugares de Importancia Comunitaria (LIC), mientras que un 25,5 % del mismo (63.566 ha) es ZEPA. De entre todos, las sierras de Santo Domingo y Caballera o las áreas que componen el Parque Natural de la Sierra y Cañones de Guara son las más amplias y conocidas, pero también por su singularidad destacan las ZEPA de La Sotonera o la ZEPA de la Serreta de Tramaced.</p>

		<p>El elemento esencial para garantizar la sostenibilidad del sector debe ser el mercado (Tejerina I.G., 2016, pp.1-3)</p> <p>Nuestro objetivo final debe ser seguir garantizando unas condiciones de estabilidad adecuadas para nuestro sector agrario. Ello pasa por introducir los ajustes necesarios en el modelo actual, sin que ello suponga una ruptura del mismo. (Tejerina I.G., 2016, pp.1-4)</p> <p>debemos favorecer el cambio gradual hacia una agricultura más competitiva, más orientada al mercado e internacionalizada (Tejerina I.G., 2016, pp.1-4)</p>	<p>http://www.aragon.es/DepartamentosOrganismosPublicos/Departamentos/DesarrolloRuralSostenibilidad/AreasTematicas/MA_Biodiversidad/RedNatura2000</p> <p>Solo en 2010. MEDIDAS PARA INCENTIVAR LA GANADERÍA EXTENSIVA EN ESPACIOS DE LA RED NATURA 2000 Y COMPENSATORIAS A EXPLOTACIONES GANADERAS EXTENSIVAS POR PRESENCIA DEL OSO. Compensar a las explotaciones ganaderas por el mantenimiento del aprovechamiento ganadero en régimen extensivo como medida de conservación de los hábitats supraforestales en los espacios pirenaicos de la Red Natura 2000 (Módulo 1) y el establecimiento de medidas de compensación por los costes indirectos causados a las explotaciones ganaderas extensivas en las zonas de presencia del oso pardo (Módulo 2).(https://www.aragon.es/portal/site/GobiernoAragon/menuitem.bc635f27d1b850777f4dbc1754a051ca?vgnextoid=b0390eb4bb58b210VgnVCM100000450a15acRCRD&idTramite=317)</p> <p>https://hoyadehuesca.es/index.php?option=com_content&view=article&id=855:segunda-edicion-de-las-visitas-de-interpretacion-ambiental-de-la-hoya&catid=20&lang=es&Itemid=124</p> <p>Many EU farmers have benefited from grants to modernise their farm buildings and machinery. Others have made use of grants to improve the quality of their livestock and the conditions under which they are reared. (European Commission, 2017, pp.5-11)</p> <p>the CAP helps young people to get started in farming with funds to buy land, machinery and equipment. It also provides grants to train both new and established farmers in the latest technical production methods. (European Commission, 2017, pp.5-8)</p> <p>el Observatorio de la cadena alimentaria llevará a cabo actuaciones dirigidas a mejorar la transparencia de los mercados, ofreciendo periódicamente a los operadores la mejor información disponible relativa a las transacciones que se realizan a lo largo de toda la cadena (Tejerina I.G., 2016, pp.1-4)</p>
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			se reforzará la integración sectorial en torno a las interprofesionales apoyando la creación de estas organizaciones en los sectores cuyas asociaciones representativas lo soliciten (Tejerina I.G., 2016, pp.1-5)
	3. <i>Variety and tailor-made responses</i>	<p>farmers have to adopt environmentally sustainable farming methods. (European Commission, 2017, pp.5-9)</p> <p>Protecting biodiversity and wildlife habitats, managing water resources and dealing with climate change are other priorities that farmers are required to respect. (European Commission, 2017, pp.5-9)</p>	<p>El no cumplimiento del greening no solo implicaría penalización sobre este pago complementario, si no que también podría implicar reducciones en el pago básico. - Enhancement of environmental performance of the CAP through a mandatory “greening” component of direct payments. (European Commission, 2010)</p> <p>máximo desarrollo de la Ley de integración cooperativa, buscando facilitar la creación de entidades con dimensión suficientemente relevante como para dotarla de la mayor capacidad negociadora y competencia en los mercados (Tejerina I.G., 2016, pp.1-4)</p> <p>“..Member states or regions will continue to design their own multiannual programmes on the basis of the menu of measures available at EU level..” (European Commission, 2013, pp.6)</p> <p>Physical investment (processing of farm products, infrastructure, improving the performance and sustainability of farms, etc.) (European Parliament, 2018, pp.4-2)</p> <p>Preservation of farming practices which have a beneficial effect on the environment and climate and foster the necessary changes (agri-environment-climate measures). (European Parliament, 2018, pp.4-3)</p> <p>Many sites (Natura 2000) are on farmland and the farmers undertake to manage the land in a specific manner so that the biodiversity is maintained.(European Commission, 2017, pp.5-10) (get more information)</p> <p>In addition to the Basic Payment Scheme/SAPS, each holding will receive a payment per hectare for respecting certain agricultural practices beneficial for the climate and the environment.(European Commission, 2013, pp.6-2)</p>

			The EU helps farmers by encouraging the formation of producer organisations.... contractual relationships throughout the food chain (European Commission, 2017, pp.5-12/13)
	4. <i>Social learning</i>	<p>“The Eu helps farmers by encouraging: the formation of producer organization-other forms of cooperation-contractual relationship.” (European Commission, 2017, pp.12-13)</p> <p>The CAP increasingly helps farmers to strengthen their bargaining position vis-à-vis other players in the food chain.(European Commission, 2017, pp.5-12)</p> <p>Encouragement of cooperation between farmers and forestry operators and those involved in the food production chain (establishment of centres and networks, operational groups of the European Innovation Partnership for Agricultural Productivity and Sustainability(EIP) (European Parliament, 2018, pp.4-3)</p>	<p>“..the Leader approach encourages local people to address local issues”. (European Commission, 2017, pg.7)</p> <p>“..the EU plans to make available to farmers almost 4 million places on training courses and 1.4 million advisory sessions with a focus on economic and environmental performance farms.” (European Commission, 2017, pp.12)</p> <p>“Innovation: will be served by various rural development measures such as knowledge transfer, cooperation...” (European Commission, 2013, pp.7)</p> <p>“a knowledge-based agriculture”: Strengthened measures for Farm Advisory Services (also linked to climate change mitigation and adaptation, to environmental challenges and to economic development and training) (European Commission, 2013, pp.6-5)</p>
Transformability	1. <i>Long term</i>	<p>In the future, our farmers will have to produce more with less.(European Commission, 2017, pp.5-11)</p> <p>hacer la actividad agraria más atractiva para nuestros jóvenes y de crear riqueza y empleo en el medio rural. (Tejerina I.G., 2016, pp.3)</p> <p>In the coming decade our farmers will become more efficient and more competitive.(European Commission, 2017, pp.5-11)</p> <p>En cuanto al relevo generacional, las mujeres y los jóvenes serán el eje sobre el que pivote la estrategia nacional de modernización y diversificación rural que abordaremos y que estará centrada en el apoyo al desarrollo de capacidades empresariales y de emprendimiento, así como de innovación. Con esta estrategia pretendemos incorporar 20.000 jóvenes en los próximos años (Tejerina I.G., 2016, pp.1-6)</p>	<p>The communication places an emphasis on sustainable development, the preservation of natural resources and the need to ensure generational renewal. On the subject of the latter, the communication invites Member States to devise programmes reflecting the needs of their young farmers and proposes that access for young farmers to financial instruments to support farm investments and working capital be simplified.(European Parliament, 2018, pp.4-2)</p> <p>“..Member states or regions will continue to design their own multiannual programmes on the basis of the menu of measures available at EU level..” (European Commission, 2013, pp.6)</p>

	2. <i>Dismantling incentives that support status quo</i>		
	3. <i>In-depth learning</i>	Fostering knowledge transfer and innovation in agriculture, forestry and rural areas. (European Commission, 2013b)	<p>“The Rural development regulation sets out a bottom-up local development approach pursued by local stakeholders (the LEADER approach).” (European Parliament, 2018, pp.3)</p> <p>This could be achieved through the development of instruments, such as innovation partnerships, to promote innovation in agriculture by bridging the existing gap between research and farming practice and facilitating communication and cooperation among stakeholders (farmers, advisers, agro-business, scientists, administrations and others). (European Commission, 2017, pp.5-11)</p> <p>the CAP is improving access to high-speed technologies in rural areas and, by so doing, is contributing to one of the Commission’s top 10 priorities — a connected digital single market (European Commission, 2017, pp.5-4)</p>
	4. <i>Enhancing and accelerating niche innovations</i>	<p>To foster green growth through innovation which requires adopting new technologies, developing new products, changing production processes, and supporting new patterns of demand, notably in the context of the emerging bioeconomy. (European Commission, 2010, pp.7)</p> <p>Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable management of forests. (European Commission, 2013b)</p>	

References/Documents:

- 1) European Commission (2013). Cap Reform – an explanation of the main elements.
- 2) European Commission (2013b). Overview of CAP reform 2014-2020.
- 3) European Parliament (2018). Second Pillar of the CAP: Rural Development Policy.
- 4) Ministerio de Agricultura, Alimentacion y Medio Ambiente – MAPAMA (2015a). Los Pagos Directos de la Política Agrícola Común (PAC) 2015-2019 en el Sector Vacuno de Carne.
- 5) Ministerio de Agricultura, Alimentacion y Medio Ambiente – MAPAMA (2015b). Los Pagos Directos de la Política Agrícola Común (PAC) 2015-2019 en los sectores Ovino y Caprino.
- 6) Propuestas de Isabel García Tejerina (2016). Comparecencia de la Ministra de Agricultura y Pesca, Alimentación y Medio Ambiente (21/12/2016).
- 7) European Commission (2017). Agriculture – A partnership Between Europe and Farmers.
- 8) European Commission (2016). Direct payments – Basic Payment Scheme.
- 9) Departamento de Desarrollo Rural y Sostenibilidad (2016). Boletín Oficial de Aragón Num. 32 17/02/2016.
- 10) European Commission (2010). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The CAP Towards 2020: Meeting the Food, Natural Resources and Territorial Challenges of the Future.