



European Evaluation Network
for Rural Development

Survey results

Good Practice Workshop “Climate change mitigation
and adaptation: measuring the scope and assessing
the outcomes”

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1. About this working paper

1.1. Rational

Climate change (CC) is recognised to be a global challenge taking in account the range of actions of modern societies and economic systems connected to greenhouse gas (GHG) emissions and on the magnitude of sectors and regions to be affected by climate change.

Hence the discussion on climate change is always containing two aspects:

- how to reduce the net balance of GHG emissions held responsible for global warming either by minimising emissions or by maximising carbon sequestration (the mitigation side), and,
- how to adapt to future climate change in order to prepare for and lessen the negative impacts and at the same time exploit beneficial changes (the adaptation side).

The EU has played a leading role in climate change mitigation e.g. through the contribution to the United Nations Framework Convention on Climate Change, the Kyoto Protocol and its subsequent agreements. One of the main targets of the Europe 2020 Strategy is the reduction of GHG emissions by 20% (compared to 1990 levels).

Agriculture in most member states is responsible for a large share of GHG emissions, especially Nitrous Oxide and Methane. At EU Level the agricultural sector has reported emissions of 462 million tonnes of CO₂-equivalent of GHG in 2007, representing 9.2 % of total EU emissions¹.

At the same time, agriculture is dependent on rainfall, temperature, soil quality etc., all factors directly affected by climate change, which are becoming increasingly evident for both the land-use based sectors as well as rural areas more generally. While technologically advanced, there are limits to the extent the European agriculture can cope with changing climatic conditions.

Since Agriculture and Forestry are “using” the bulk of non-urban land in the EU, the Common Agricultural Policy (CAP) can play an important role in increasing the resilience of rural areas to the effects of climate change through the integration of climate change adaptation considerations into the entire cycle of production and life in rural areas.

Rural areas need therefore to address this double challenge of reducing the net balance of GHG emissions while at the same time adapting to the impacts of climate change. This is not an easy task, nor does it affect all Member States or their regions in the same way. A study on the adaptation to Climate Change in the agricultural sector has divided Europe in 5 agro-climatic zones, each affected in a different manner; some benefiting from warmer weather, more rainfall, higher CO₂ concentration and extended vegetation growth periods, others hampered by drought, floods or fires.

Managing Authorities (MAs) are at the moment approaching the *ex post* evaluation of 2007-2013 RDPs and designing the 2014-2020 programmes. For that reason the Evaluation Helpdesk of the European Network for Rural Development organised in February 2014 in collaboration with the Ministry of Agriculture, Natural Resources and Environment of the Republic of Cyprus a Good Practice Workshop (GPW) on “Climate Change mitigation and adaptation: Assessing the scope and measuring the outcomes”.

Linked to the workshop the Evaluation Helpdesk conducted a short survey among Member States considering the level of awareness about climate change impacts and requirements, lessons learnt in

¹ European Commission, (2009),SWD The role of European Agriculture in climate change mitigation, SEC(2009) 1093 final, Brussels

the 2007-2013 period and challenges for the integration of mitigation and adaptation in the 2014-2020 RDPs.

1.2. Purpose and target group

The purpose of this paper is:

- to illustrate the main opinions and considerations expressed by the Member States in the survey on climate change mitigation and adaptation;
- to highlight common issues and problems about climate change mitigation and adaptation;
- to identify good practices regarding climate change mitigation and adaptation;
- to discuss methodological challenges in integrating climate change mitigation and adaptation;
- and to formulate some conclusions and recommendations on climate change mitigation and adaptation for the *ex post* evaluation of 2007-2013 RDPs and designing the 2014-2020 programmes.

The target group of the paper are Managing Authorities, the scientific community, consultants, evaluators and other RDP stakeholders.

2. Main findings of the survey

2.1. Framework

The survey was conducted among MAs of RDPs (in countries with regional programmes, one survey response was provided). The questionnaire is provided in Annex 1.

The objectives of the survey were to:

- Assess experiences in the current RDPs;
- Identify obstacles and potential challenges faced to implement climate change mitigation and adaptation activities in the new RDPs;
- Provide background information for the Good Practice Workshop.

A total of 16 respondents from 16 Member States (AT, BE-Flanders, CY, EE, GR, HU, HR, IE, IT, MT, LV, LT, SK, SE, SI and UK-Northern Ireland) provided in-depth comments. Italy contributed with one survey including average values for all regional RDPs. The interim results of the survey were presented and discussed with the participants during the Good Practice workshop.

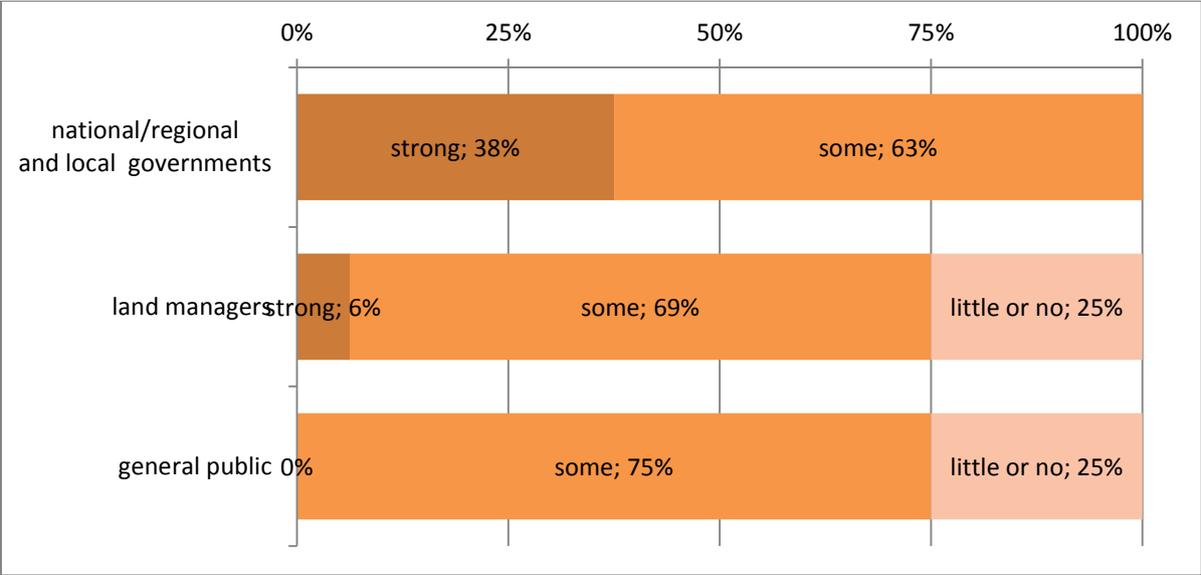
While the survey is far from representative, it offers some interesting insights on the situation in different geographic regions of the EU.

2.2. Findings

Awareness

The first part of the survey explored and assessed the awareness level of stakeholders in the MS in relation to climate change (CC) mitigation and adaptation to be addressed through RDPs. It should be noted that the survey represents the opinion of the respondents, mostly MA officials. The results are illustrated below:

Figure 1 Level of awareness



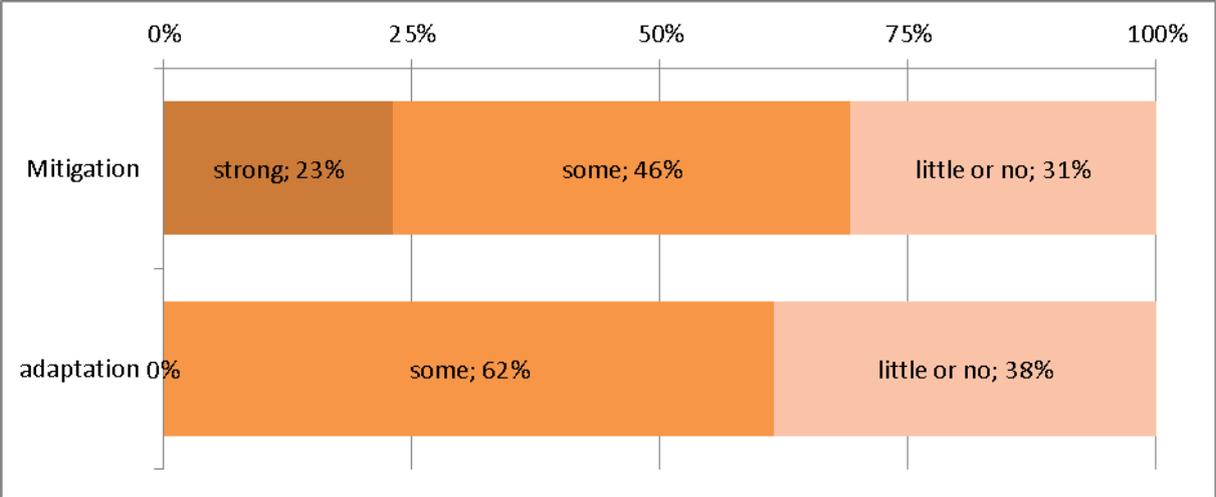
Source: Helpdesk of the European Evaluation Network for Rural Development

Figure 1 shows that the survey respondents see themselves and the public sector as strongly aware of the implications and challenges of CC mitigation and adaptation integration in the RDP, while land

users (e.g. farmers) are considered to be aware only to some extent, and the general public is considered of having rather limited awareness.

When differentiating between CC mitigation and adaptation, the level of readiness for meeting the future challenges varies considerably, with mitigation having a much stronger footing in relation to adaptation, see Figure 2.

Figure 2 Level of readiness to face future challenges on CC mitigation and adaptation



Source: Helpdesk of the European Evaluation Network for Rural Development

This finding corresponds well with other sources, e.g. the ENRD Synthesis Report from 2010, where the understanding of CC mitigation considerations is identified in a focused number of measures, whereas CC adaptation is much broader and less tackled. Indeed CC adaptation is more demanding, requiring technical know-how in a very broad range (e.g. from genetic diversity and water management to risk insurance schemes) and coordination between sectors, regions and policy making. Long term processes, lack of clear quantifiable targets (in comparison to mitigation) and considerable uncertainties for the effects at the local level accentuate the problem. In bibliography sometimes the term “no-regrets adaptation”² appears i.e. beneficial measures regardless of future climate trends, but which will be particularly beneficial if projected climate change occurs.

These factors lead to confusion and ambiguity about what CC adaptation really constitutes of; in some cases CC adaptation is simple reaction to a symptom of climate change, without any change in the modus operandi of the rural area or the agricultural sector affected³.

RDP measures in action

The next issue in the survey addressed the activation of CC relevant measures in the RDP. Figure 3 illustrates in how many cases the RDP measures address CC (Q1) and if CC impacts of the RDPs (Q2) were assessed.

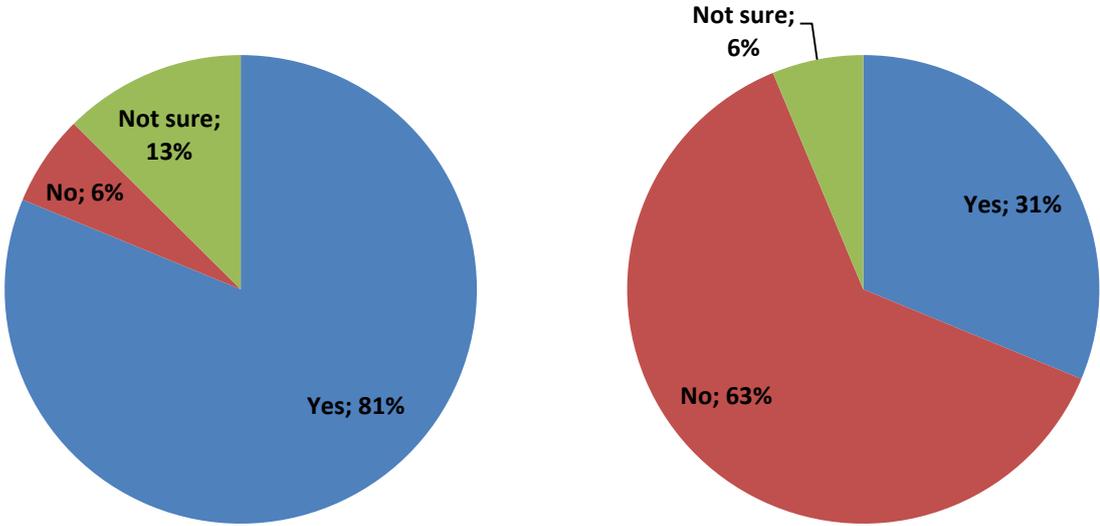
² OECD (2011), Handbook on the OECD-DAC Climate Markers, Paris

³ Slee, B., (2014), oral comment during the GPW, Larnaca

Figure 3 Implementation and assessment of impacts in the RDP

Q1 Is climate change mitigation or adaptation currently addressed by the composition of measures of your RDP?

Q2: Have you conducted any assessment of impacts (positive or negative) of the different RDP measures of the current period on climate change?



Source: Helpdesk of the European Evaluation Network for Rural Development

While the vast majority of the respondents consider that the RDP are addressing climate change mitigation and adaptation, there is also a very large majority that admits that there is little systematic assessment of impacts from relevant measures and activities. Hence the effect of those measures remains unknown.

In most cases the methodological fundament regarding assessment of impacts is more developed on CC mitigation issues, especially on renewable energy sources. There it is relatively easy to establish universal methodologies, system boundaries and reference units⁴ since the same basic principles apply everywhere. In CC adaptation however only ad-hoc, tailor fit solutions apply; hence the assessment of impacts is much less developed, although there is very close interrelation among the two aspects of climate change⁵. Even for the agro-environmental/climate measures of the new programming period, an approach of compensation of lost income and cost incurred in comparison to “conventional agriculture” prevails as the array of methodological tools for this assessment is much more developed, while the quantification of the benefits of adaptive actions needs to be also considered⁶.

The survey respondents reported mainly about assessments regarding reduction in energy use at the holding level, replacement of fossil energy through renewable energy sources (RES), increase of CO₂ sequestration using low tillage and organic farming, fertiliser use restrictions etc. The range of approaches spans from qualitative classification (positive, negative, neutral) to detailed modelling and quantification of the effects.

⁴ E.g see GIUDICE, A.(2013), Environmental Assessment of the Citrus Fruit Production In Sicily using LCA, Catania

⁵ E.g. see Deichmann, U. And Zhang, F., (2013), Growing Green The Economic Benefits of Climate Action, World Bank, Washington

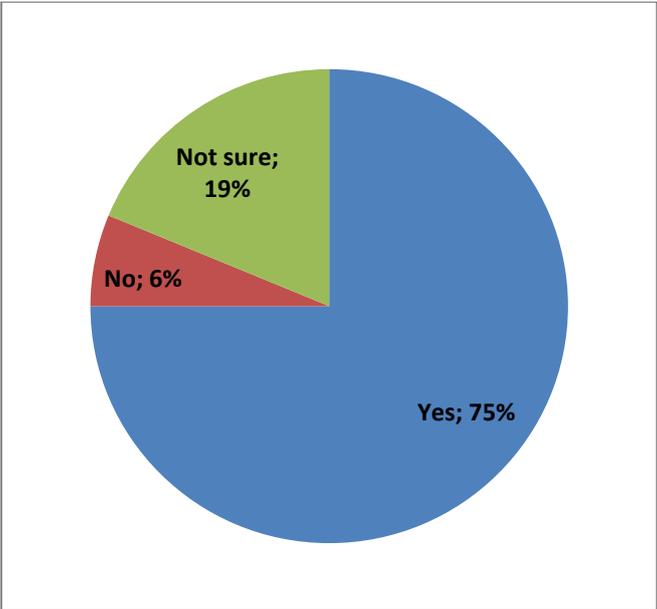
⁶ E.g. see Sulima, K., (2013), “Agri–environment–climate measure in Rural Development 2014-2020”, Presentation at ENRD Workshop, Brussels

These first experiences have identified many possible areas of improvements, e.g. in the calculation of net effects, instead of simply recording power production from RES, and have provided useful hints to be considered in the RDP *ex-post* evaluation.

Other climate change relevant policies and actions

The next question in the survey focused on the knowledge about other national or regional policies and actions that effectively address CC mitigation or adaptation. The majority replied that such attempts indeed exist.

Figure 4 Existence of other climate change relevant policies and actions



Source: Helpdesk of the European Evaluation Network for Rural Development

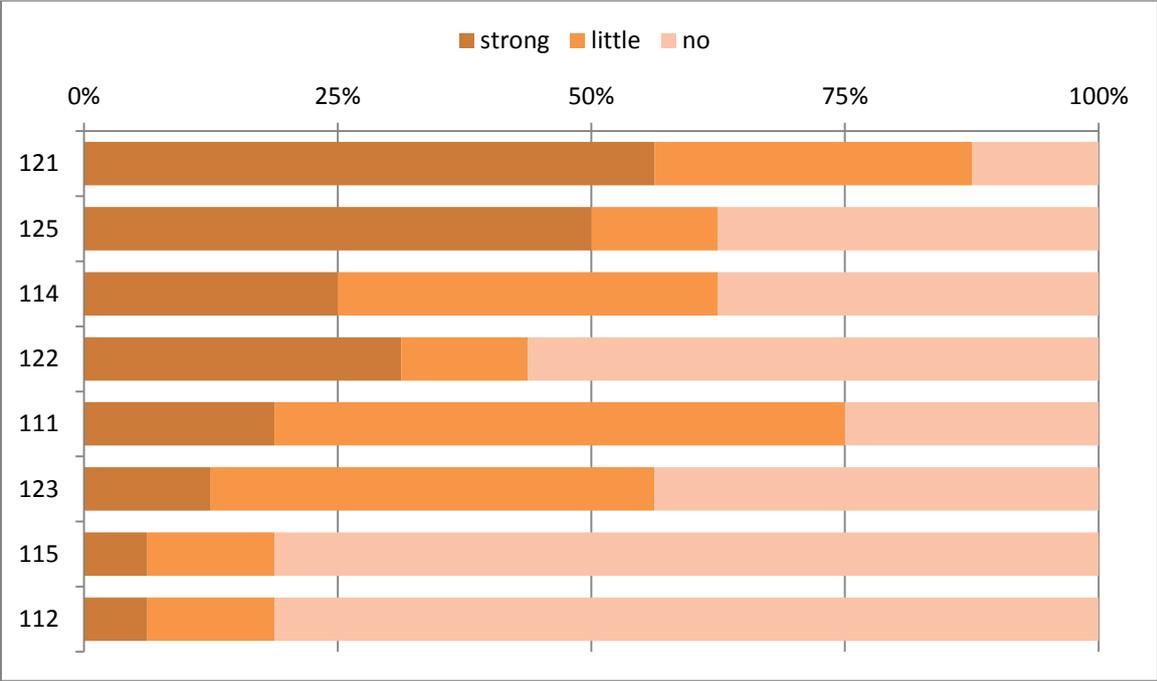
Most of the respondents (75%) mentioned actions relevant to CC mitigation, either through incentives and support schemes for RES issues either as electricity or biofuels (e.g. Cyprus, Sweden, Italy etc.) or through various specific programmes providing support to farmers to reduce energy inputs, eradicate diseases which burden the CO₂ balance, electro-mobility, support of CO₂ sequestration etc. Adaptation and awareness also appear but in much less intensity (e.g. in Flanders, Hungary and Latvia).

It is interesting to note, that the pattern of CC mitigation awareness and understanding is repeated also here; CC mitigation actions are easy to grasp and to implement through a set of policy tools (tax and investment incentives, monitoring mechanisms etc.). CC adaptation remains more challenging to achieve through concrete policy action.

Relevant RDP Measures in the period 2007-2013

The next set of questions in the survey drew the attention at the implementation of climate change actions within the common RDP and other programme-specific measures. The respondents were asked to assess which measures for each Axis contribute the most to CC mitigation and adaptation. The graphs below illustrate their answers.

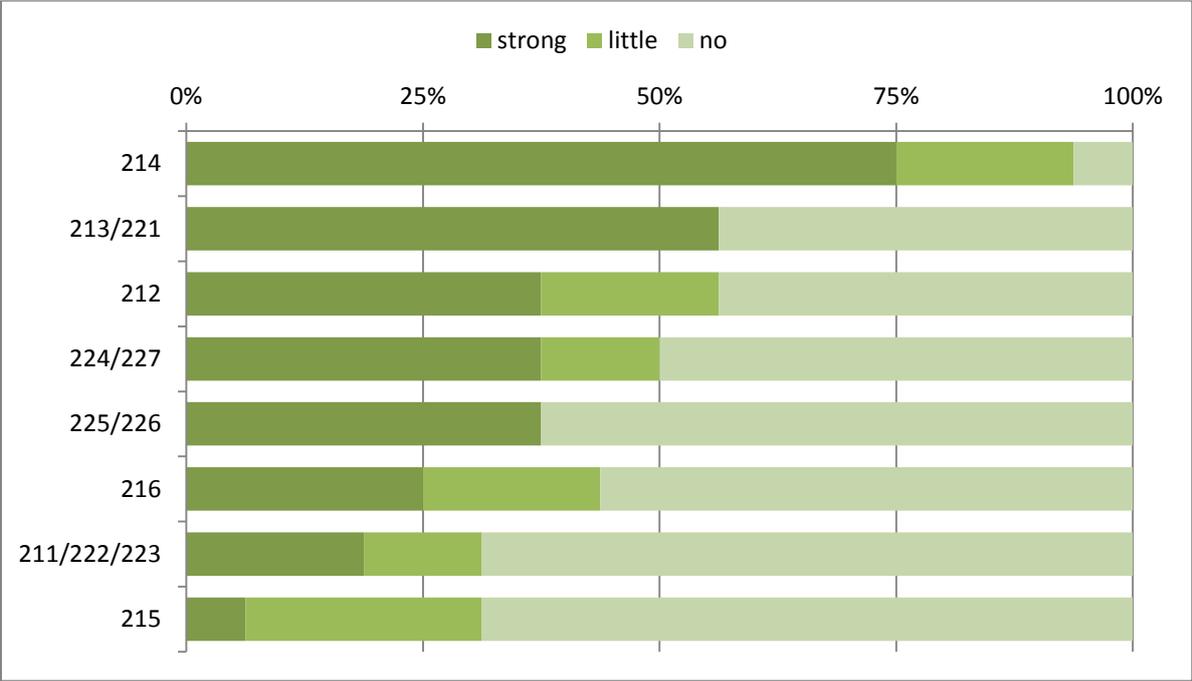
Figure 5 Contribution of RDP measures (M121, M125, etc.) to CC mitigation and adaptation for Axis 1



Source: Helpdesk of the European Evaluation Network for Rural Development

Measure 121 (Modernisation of agricultural holdings) was considered as the most relevant and effective, especially concerning RES and energy efficiency, so contributing to CC mitigation. Also measure 122 (Improve the economic value of forest) and measure 123 (adding value to agricultural and forestry products) contribute to CC mitigation, showing the prominent importance of woods as “CO₂ sinks” is prominent. Measures 111 (Vocational training and information action), 112 (Setting up young farmers), 114 (Advisory services) and 115 (Setting up farm management, relief and advisory services) pose a conglomerate of training, information, awareness and advisory services which do not directly address climate change but which have a supporting role. Measure 125 (improving and developing infrastructure related to the development and adaptation of agriculture and forestry) can be considered as partly CC adaptation oriented, especially when concerning water efficiency infrastructures.

Figure 6 Contribution of RDP measures (M214, M213, etc.) to CC mitigation and adaptation for Axis 2



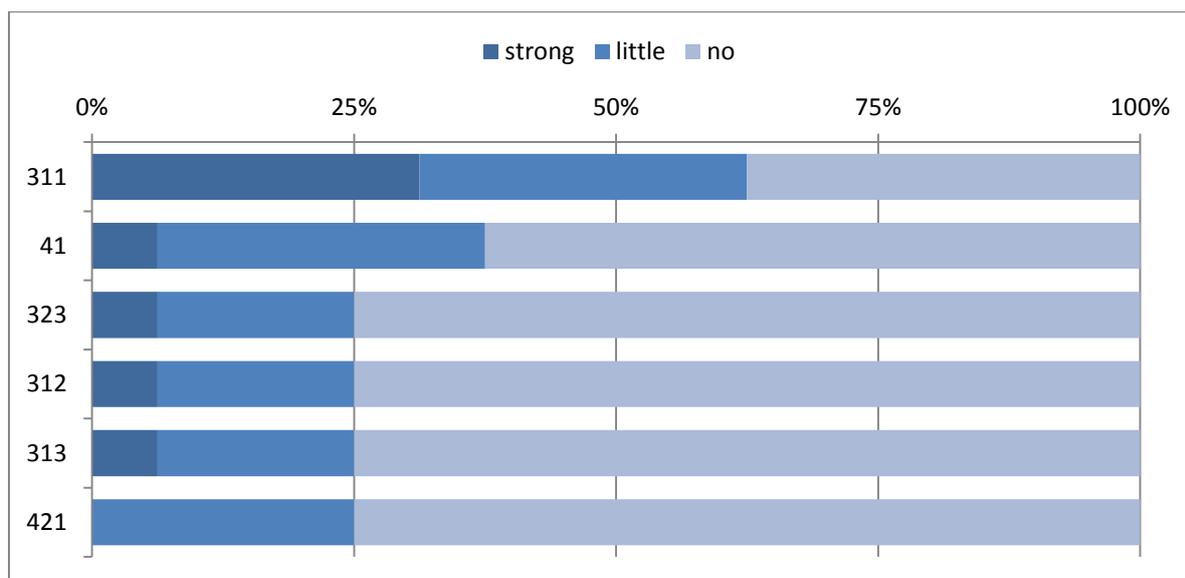
Source: Helpdesk of the European Evaluation Network for Rural Development

In Axis 2, measure 214 (agri-environmental measures) is most prominently contributing to CC, mainly to mitigation. The range of activities implemented under measure 214 is very broad but the main effects are brought through reduction of energy and fertiliser inputs or through spatial extensification. Strong contribution to CC mitigation is also observed for the measures 213 (NATURA 2000 payments linked to WFD) and 221 (first afforestation). Other Measures with a moderate contribution to CC mitigation are measure 212 (payments in areas with handicaps), measure 224 (NATURA 2000 payments) and the forestry related measures (e.g. measure 225, measure 222, measure 223) serving primarily the aim of carbon sequestration. Contribution to CC adaptation is observed for measures 216 and 227 (non-productive investments) and measure 226 (Restoring forest potential). However the focus of the survey was not in the exact delineation of mitigation and adaptation issues addressed by the measures. Hence further research is necessary.

Looking at Axes 3 and 4 a similar pattern to Axis 1 is observed. Under measure 311 a very large number of RDP have fostered “increased use of renewable energy” through the investment support for installation of power generators and raw material supply chains. Also in the other mentioned measures, e.g. measure 312 (business creation) or measure 323 (heritage) the main argument was either power production from RES or energy efficiency. Similar actions are also found in Local Development Strategies developed under Measure 41 and it seems that the CC adaptation potential of diversification and local development was overlooked. The ENRD has produced a series of country profiles which clearly support this finding⁷

⁷ ENRD (2011), , last assessed 17.03.2014

Figure 7 Contribution of RDP measures (M311, M41, etc.) to CC mitigation and adaptation for Axes 3 and 4



Source: Helpdesk of the European Evaluation Network for Rural Development

Main obstacles and challenges for the 2014-2020 period

Looking at the future, the survey shows that Member States are facing certain obstacles in programming and evaluating climate change actions of the new RDP..

The survey respondents reported a long list of obstacles and challenges, clustered as follows:

- **Methodological framework:** confusion of terms like mitigation, adaptation, resilience and sustainability, lack of baselines and indicators, complex, non-linear and long term relationships, difficulties in conducting quantitative *ex-ante* assessment, difficulties in monitoring effects and estimating net effects, poor methodological proof of economic efficiency of the measures (e.g. on marginal abatement costs ranking), difficulties in providing unambiguous policy advice.
- **Programme framework:** novelty of relevant measures for the RDP and the farmers, limitation of funds, difficulties to formulate adequate project selection criteria, weak incentives, difficulties with compliance checks, verification and control, difficulties in integrating this horizontal issue in the RDP's intervention logic, difficulties in setting proper targets in the new RDP, difficulties in coordinating actions and utilising complementarities with other programmes and actions.
- **Programme operating environment and context:** low awareness and acceptance, know-how gaps, low farmers' participation in relevant measures among others due to the small farms structure and the complexity of some of the actions, land-use conflicts and vested interests, contradictory policy signals (income support and compensation vs. public goods valuation), conflict between market trends and climate change action imperatives.

The methodological challenges are the most prominent, therefore methodological support seems to have the highest priority for the Member States, however, also issues related to the programme framework and context are closely intertwined, so they should not be overlooked.

3. Conclusions

Summing up, the survey produced a snapshot of the awareness level about CC, the experiences with CC related RDP measures in the period 2007-2013 and the identification of obstacles and challenges for CC mitigation and adaptation for the programming period 2014-2020.

As a first conclusion the difference on awareness and readiness between CC mitigation and CC adaptation is remarkable. Mitigation aspects are well understood, partially due to the clarity of the concept of GHG and especially CO₂ emission reductions. Adaptation is a more intangible concept; hence less understood or addressed.

CC awareness and readiness diminishes (or is perceived as doing so) as one moves from the public sector (RDP officials, implementing bodies, etc.) to farmers and the general public. This has serious implications on acceptance and uptake of measures by potential RDP beneficiaries. On the other hand, even with a fairly good CC awareness level within the RDP managing authorities, it has been difficult to include concrete climate change actions in the RDPs.

Methodological gaps regarding monitoring and evaluation, especially for CC adaptation hamper the broad implementation of climate change actions. These gaps are related to lack of experience with some type of measures, lack of baselines and methodologies and thus difficulties in providing unambiguous policy advice. This in turn has an impact on awareness and willingness to introduce these activities.

For the period 2014-2020 rural development policy aims to improve the competitiveness of agriculture, enhance the sustainable management of natural resources, enhance climate action and ensure balanced territorial development of rural areas. For this purpose the policy defines 6 rural development priorities and 18 corresponding Focus Areas, of which 2 are related to climate change issues:

- Priority 4: restoring, preserving and enhancing ecosystems dependent on agriculture and forestry and
- Priority 5: promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors

It should be noted that climate action can also be delivered under other rural development priorities and Focus Areas, for example through targeted efforts to prepare rural areas to deal with water scarcity, harvest shortfalls, floods, newly appearing or reappearing diseases etc. Rural development priority 1 on innovation and knowledge transfer is also expected to contribute by fostering applied research on climate resilient crops and low-energy cropping systems or targeted training and capacity building.

ANNEX 1 - Questionnaire

1. To what extent are the national/regional and local governments aware of the need for the rural sectors to contribute to European, national and regional climate change targets? (mark one box)

- There is strong awareness
- There is some awareness
- There is very little or no awareness

2. Besides the RDP, does your national/regional government implement policies that address effectively climate change mitigation or adaptation in rural land use and rural development? (mark one box)

- Yes
- No
- Not sure

If yes, please give a brief description of ONE good example if possible
Description:

3. To what extent do you consider land managers are aware of the need for the rural areas to contribute to climate change mitigation or adaptation? (mark one box)

- There is strong awareness
- There is some awareness
- There is very little or no awareness

4. To what extent do you consider the general public is aware of the need for the rural areas to contribute to climate change mitigation or adaptation? (mark one box)

- There is strong awareness
- There is some awareness
- There is very little or no awareness

In relation to the programming period 2007-2013

5. Is climate change mitigation or adaptation currently addressed by the composition of measures of your current RDP? (mark one box)

- Yes
- No
- Not sure

6. Which measures within your RDP are expected to contribute to climate change mitigation and adaptation? Please mark with an "x" the selected options

Measure code		Contribution				
		No contribution	A little	Quite a lot	A lot	Not implemented
111	Vocational training and information actions, including diffusion of scientific knowledge and innovative practises for persons engaged in the agricultural, food and forestry sectors (Article 20 (a) (i) of Reg. (EC) N° 1698/2005)					
112	Setting up of young farmers (Article 20 (a) (ii) of Reg. (EC) N° 1698/2005)					
113	Early retirement of farmers and farm workers (Article 20 (a) (iii) of Reg. (EC) N° 1698/2005)					
114	Use of advisory services by farmers and forest holders (Article 20 (a) (iv) of Reg. (EC) N° 1698/2005)					
115	Setting up of farm management, farm relief and farm advisory services, as well as of forestry advisory services (Article 20 (a) (v) of Reg. (EC) N° 1698/2005)					
121	Modernisation of agricultural holdings (Article 20 (b) (i) of Reg. (EC) N° 1698/2005)					
122	Improvement of the economic value of forests (Article 20 (b) (ii) of Reg. (EC) N° 1698/2005)					
123	Adding value to agricultural and forestry products (Article 20 (b) (iii) of Reg. (EC) N° 1698/2005)					
124	Cooperation for development of new products, processes and technologies in the agriculture and food sector and in the forestry sector (Article 20 (b) (iv) of Reg. (EC) N° 1698/2005)					
125	Improving and developing infrastructure related to the development and adaptation of agriculture and forestry (Article 20 (b) (v) of Reg. (EC) N° 1698/2005)					
126	Restoring agricultural production potential damaged by natural disasters and introducing appropriate prevention actions (Article 20 (b) (vi) of Reg. (EC) N° 1698/2005)					
131	Helping farmers to adapt to demanding standards based on Community legislation (Article 20 (c) (i) of Reg. (EC) N° 1698/2005)					
132	Supporting farmers who participate in food quality schemes (Article 20 (c) (ii) of Reg. (EC) N° 1698/2005)					
133	Supporting producer groups for information and promotion activities for products under food quality schemes (Article 20 (c) (iii) of Reg. (EC) N° 1698/2005)					
141	Supporting semi-subsistence agricultural holdings undergoing restructuring (Article 20 (d) (i) of Reg. (EC) N° 1698/2005)					
142	Supporting setting up of producer groups (Article 20 (d) (ii) of Reg. (EC) N° 1698/2005)					
211	Natural handicap payments to farmers in mountain areas (Article 36 (a) (i) of Reg. (EC) N° 1698/2005)					
212	Payments to farmers in areas with handicaps, other than mountain areas (Article 36 (a) (ii) of Reg. (EC) N° 1698/2005)					
213	Natura 2000 payments and payments linked to Directive 2000/60/EC (WFD) (Article 36 (a) (iii) of Reg. (EC) N° 1698/2005)					
214	Agri-environment payments (Article 36 (a) (iv) of Reg. (EC) N° 1698/2005)					
215	Animal welfare payments (Article 36 (a) (v) of Reg. (EC) N° 1698/2005)					
216	Support for non-productive investments (Article 36 (a) (vi) of Reg. (EC) N° 1698/2005)					

	(EC) N° 1698/2005)					
221	First afforestation of agricultural land (Article 36 (b) (i) of Reg. (EC) N° 1698/2005)					
222	First establishment of agroforestry systems on agricultural land (Article 36(b) (ii) of Reg. (EC) N° 1698/2005)					
223	First afforestation of non-agricultural land (Article 36 (b) (iii) of Reg. (EC) N° 1698/2005)					
224	Natura 2000 payments (Article 36 (b) (iv) of Reg. (EC) N° 1698/2005)					
225	Forest-environment payments (Article 36 (b) (v) of Reg. (EC) N° 1698/2005)					
226	Restoring forestry potential and introducing prevention actions (Article 36 (b) (vi) of Reg. (EC) N° 1698/2005)					
227	Support for non-productive investments (Article 36 (b) (vii) of Reg. (EC) N° 1698/2005)					
311	Diversification into non-agricultural activities (Article 52 (a) (i) of Reg. (EC) N° 1698/2005)					
312	Support for business creation and development (Article 52 (a) (ii) of Reg. (EC) N° 1698/2005)					
313	Encouragement of tourism activities (Article 52 (a) (iii) of Reg. (EC) N° 1698/2005)					
321	Basic services for the economy and rural population (Article 52 (b) (i) of Reg. (EC) N° 1698/2005)					
322	Village renewal and development (Article 52 (b) (ii) of Reg. (EC) N° 1698/2005)					
323	Conservation and upgrading of the rural heritage (Article 52 (b) (iii) of Reg. (EC) N° 1698/2005)					
331	A training and information measure for economic actors operating in the fields covered by axis 3 (Article 52 (c) of Reg. (EC) N° 1698/2005)					
341	A skills-acquisition and animation measure with a view to preparing and implementing a local development strategy (Article 52 (d) of Reg. (EC) N° 1698/2005)					
41	Implementing local development strategies as referred to in Article 62(1)(a) with a view to achieving the objectives of one or more of the three other axes defined in sections 1, 2 and 3 (Article 63 (a) of Reg. (EC) N° 1698/2005)					
421	Implementing cooperation projects involving the objective selected under point (a) (Article 63 (b) of Reg. (EC) N° 1698/2005)					
431	Running the local action group, acquiring skills and animating the territory as referred to in article 59 (Article 63 (c) of Reg. (EC) N° 1698/2005)					
Programme-specific measures (Please specify below)						

7. Have you conducted any assessment of impacts (positive or negative) up to now of the different RDP measures of the current period on climate change? (mark one box)

- Yes
- No
- Not sure

If yes, please give a brief description of what was the focus of the assessment conducted
Description:

In relation to the programming period 2014-2020

8. Which main obstacles and barriers do you expect in the implementation of climate change related measures in the new RDP? (up to three)

- 1)
- 2)
- 3)

9. What are the main challenges during the *ex ante* assessment of the potential impacts of climate change related measures in the new RDP? (up to three)

- 1)
- 2)
- 3)

10. Are the climate change mitigation or adaptation activities designed in the new RDP based on previous experiences, knowledge and collected evidence? (mark one box)

Mitigation

- There is strong evidence, experience and knowledge with respect to mitigation
- There is some evidence with respect to mitigation
- There is little or no evidence with respect to mitigation

Adaptation

- There is strong evidence with respect to adaptation
- There is some evidence with respect to adaptation
- There is little or no evidence with respect to adaptation

11. What assistance do you most need to design the activities that address climate change mitigation or adaptation in your new RDP?

Description: