

## GENERAL INNOVATION FRAMEWORK AND THE INNOVATION EXPECTATIONS OF RURAL ACTORS

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### ABSTRACT

The analysis of the general and the further-on more specific innovation framework targeting the rural area and the rural economy begins by screening the general statistic data and continues by an in-depth investigation of the options and opinions of relevant rural actors at the scale of a well-defined rural micro region, in our case a Local Action Group territory. The choice of the local scale should build on the previously acquired experience in project-based developments and the general high favourability for rural development for the specific region. The moment of the investigation is also an observation choice linked to the specific inputs of information and advice during the sessions of information and animation requested during the formulation stage of the future Local Development Strategies. The moment is highly relevant since it places the overall accessible support framework in the development perspectives and even more, in the formulated development intentions on medium term for an entire territory. The collection of facts and observations about the current state and the developments in the field of Research, Development and Innovation are compared to the real expectations and the development intentions of the local rural actors. The measure of the gap between the nationally programmed instruments and the real developments in agriculture and rural economy indicates the fitness level of the top-down programming approach.

**Keywords:** innovation framework, rural development, rural actors' expectations

### INTRODUCTION

The need for strengthening the innovations' impact in rural development originates in early community initiatives and becomes a supported development opportunity for the first time in the EU's National Rural Development Programmes (NRDPs) 2007-2013. Although not introduced from the very beginning (EIP-AGRI, 2012) other than a transversal priority it was later incorporated as part of the Rural Development Programmes (RDPs) and supplemented with funds for dedicated interventions (Romanian NRDP 2007-2013, 2012). The current layout of the programmes, namely the EU's 2014-2020 RDPs and the Romanian NRDP (Romanian NRDP 2014-2020, 2016) further include the European Innovation Partnership for Agricultural productivity and Sustainability as a core component for the innovation support designated to smart rural areas. The overall approach of the innovation at national level is rather focused on spinning business and mainstream sectors with no particular emphasis on rural or agriculture other than the dedicated interventions pointing to the bioeconomy. The current Romanian RDP has directed the support for innovation and transfer of innovative products and process mainly towards a sub-measure - sM 16 Support for cooperation (Romanian NRDP 2014-2020, 2016) which is still inaccessible due to a long delayed official launch. On the side of the rural actors and farmers' communities the demand is not only present but also relatively well formulated as highlighted by the findings of the present paper.

## MATERIAL AND METHOD

The localised data is collected and analysed by interview survey as primary research method. Bridging with the national relevance and findings was performed by secondary research based on data from official statistics sources selected and compiled by secondary analysis for the relevant variables (NIS, 2017). No qualitative methods were employed in order to induce a maximum of objectivity strictly linked to findings and observations.

## RESULTS

Within the precise target of fixing the current expectations and the development intentions linked to the transfer of innovation at the most local scale a screening of the national framework is required. In this respect, we will pinpoint the recent evolutions, where applicable and relevant capturing almost two decades of changes, in line with a selected number of indicators as followed by the methodology of the Community Innovation Survey (CIS, 2016). The heterogeneous series will capture the evolution of the number of units with research and innovation activities, the number of innovative companies with focus on the West Region where the surveyed LAG is situated, the turnover evolution of the innovative companies in Romania where the focus goes for the SMEs, the typology of the innovators and its evolution since 2002 and the selected typologies of RDI projects for agriculture and agricultural sciences.

The evolution of the total number of units developing research and innovation activities over a period of eighteen years is presented in the *Table 1* and illustrated graphically in *Figure 1* bellow.

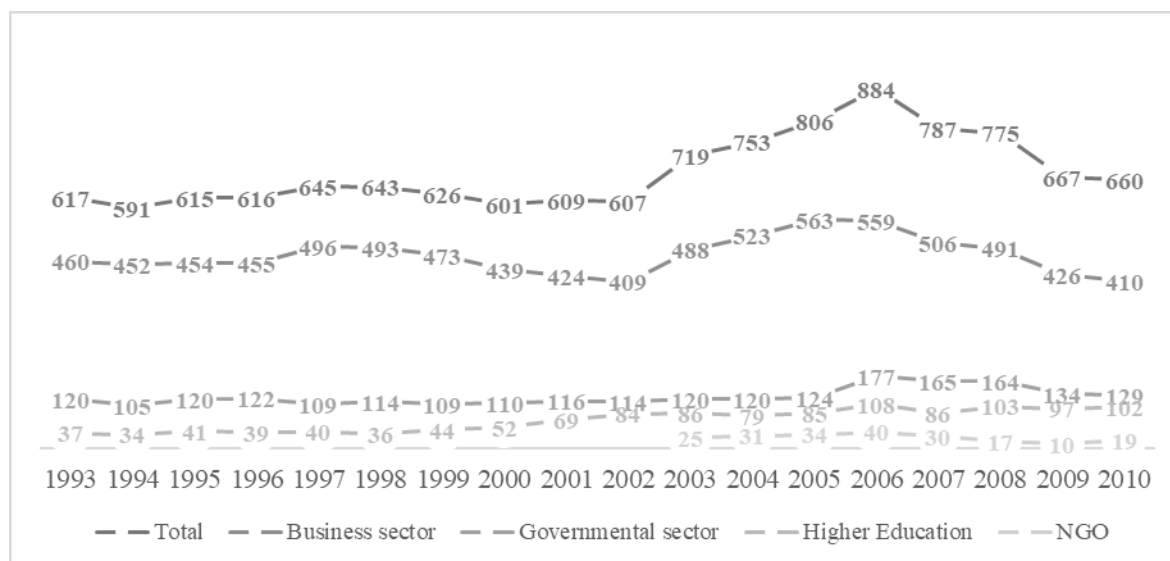
**Table 1. Units with Research and Development activities by sectors, 1993-2010 (no.)**

	Sectors	Total	Business sector	Governmental sector	Higher Education	NGO
Years	1993	617	460	120	37	-
	1994	591	452	105	34	-
	1995	615	454	120	41	-
	1996	616	455	122	39	-
	1997	645	496	109	40	-
	1998	643	493	114	36	-
	1999	626	473	109	44	-
	2000	601	439	110	52	-
	2001	609	424	116	69	-
	2002	607	409	114	84	-
	2003	719	488	120	86	25
	2004	753	523	120	79	31
	2005	806	563	124	85	34
	2006	884	559	177	108	40
	2007	787	506	165	86	30
	2008	775	491	164	103	17
	2009	667	426	134	97	10
	2010	660	410	129	102	19

Source: National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

As general observation it is notable, and to a certain extent, unexpected that the major changes in the peak period before the crisis were induced by the shifts in number in the public sector. The end of the Romania's pre-accession to EU led to an unnatural growth from 124 to 177 units in the governmental sector in a single year that washed away during

the next half decade. Other than this evolution the general trend is set by the business sector as observed in *Figure 1*. Also, worth mentioning that the higher education continued the growth recorded at the beginning of the millennia and managed to sustain the growth even during the crisis years (2008-2010).



**Figure 1. Entities with RDI activities in Romania, 1993-2010 (number)**

Source: Based on data from National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

Contrary to the general belief and the common knowledge in the region the number of innovative companies is rather lagging behind other regions in the country. If the relative and absolute figures regarding the IT&C companies and other companies involved in high tech and automotive parts active in the West Region is considerable larger than in most other regions of the country in 2014 only 5% of the innovative companies in Romania were placed and still active here. As presented in *Table 2*, this share is a decrease with more than 100 companies over the past decade while the number of non-innovative companies increased by more than 10% to the reference initial year of the period.

**Table 2. Innovative companies at national and regional level, 2002-2014 (no., %)**

		Years						
		2002	2004	2006	2008	2010	2012	2014
<b>Total</b>	<b>TOTAL</b>	23404	26024	28488	29979	26330	28866	28380
	<b>WEST Region (%)</b>	11%	10%	10%	10%	10%	9%	10%
	<b>WEST Region (no.)</b>	2481	2723	2959	3002	2532	2672	2724
<b>Innovative companies</b>	<b>TOTAL</b>	3983	5171	6013	9986	8116	5968	3645
	<b>WEST Region (%)</b>	7%	7%	5%	6%	6%	6%	5%
	<b>WEST Region (no.)</b>	291	354	329	616	469	384	175
<b>Non-innovative companies</b>	<b>TOTAL</b>	19421	20853	22475	19993	18214	22898	24735
	<b>WEST Region (%)</b>	11%	11%	12%	12%	11%	10%	10%
	<b>WEST Region (no.)</b>	2190	2369	2630	2386	2063	2288	2549

Source: National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

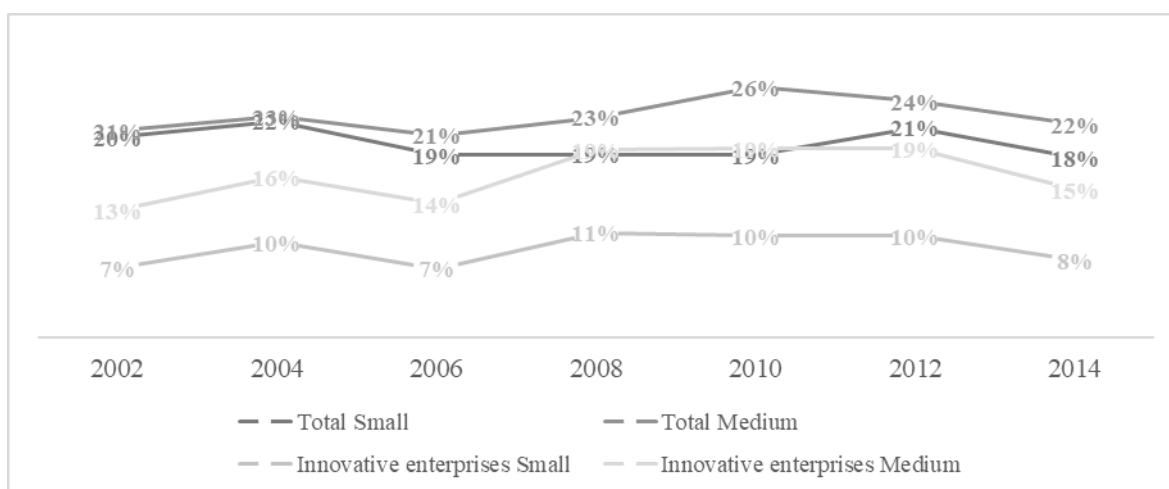
The turnover of the companies over the same decade containing both the pre-accession (2002-2007) and the integration period of Romania to EU or the first programming period

as EU member state (2007-2014) allow the observation of uneven evolutions and most likely a high dependency to investments for the innovative companies. As presented in *Table 3* below, the general turnover has multiplied over four times (4.3 times) during the observed period if compared the beginning and the end of the period. For the grand total including all kind of companies the growth was almost linear while for the innovative companies the evolution was rather Gaussian stabilising to a factor three growth at the end of the period. However, if in 2002 the contribution of the innovative companies was representing over 40% (41.53%) in 2014 it represents little over 30% (31.29%). Although the evolution of the total and the innovative companies, particularly the SMEs, is slightly parallel it is interesting to observe the relative stability as share from total of the small and medium enterprises as presented in the *Figure 2*.

**Table 3. Turnover of innovative enterprises in Romania, 2002-2014 (Thou. ROL)**

	2002	2004	2006	2008	2010	2012	2014
<b>Total</b>							
<b>Total</b>	185.533.699	298.028.917	457.951.764	648.366.728	580.659.532	667.323.194	800.965.586
Small	38.032.185	65.965.454	85.589.822	121.410.952	108.080.006	143.290.933	147.439.300
Medium	39.145.696	67.217.615	94.767.755	146.019.979	148.342.548	161.056.062	174.219.298
Large	108.355.818	164.845.848	277.594.187	380.935.797	324.236.978	362.976.199	479.306.988
<b>Innovative enterprises</b>							
<b>Total</b>	77.051.452	135.533.473	219.737.312	391.459.502	339.489.595	267.691.818	250.620.882
Small	5.482.718	13.245.118	15.522.111	41.972.042	35.314.050	27.921.021	19.799.237
Medium	10.054.396	22.319.117	30.117.481	75.224.154	65.432.493	51.760.922	37.884.374
Large	61.514.338	99.969.238	174.097.720	274.263.306	238.743.052	188.009.875	192.937.271

Source: National Institute of Statistics, TEMPO Online data series, interrogated 04.2017



**Figure 2. Turnover of innovative SMEs in Romania, 2002-2014 (%)**

Source: Based on data from National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

These evolutions observed above can be approached from the inside if we address the typology of the innovators and the evolution of these categories over the same time period (*Table 4*). The most dramatic evolutions regard the innovators with unfinished or abandoned activities where the figures increased fifteen times representing 8% from the total number of innovative enterprises in 2014. Also, the number of successful innovators has decreased by more than half while the number of non-innovative enterprises has increased by one third over the last four years of the observed period.

**Table 4. Typology and evolution of innovators, 2002-2014 (no.)**

Types of innovators	Years						
	2002	2004	2006	2008	2010	2012	2014
<b>Total</b>	23404	26024	28488	29979	26330	28866	28380
<b>Innovative enterprises</b>	3983	5171	6013	9986	8116	5968	3645
<b>Enterprises with only product and/or process innovation</b>	:	:	:	1951	1137	541	988
<b>Enterprises with only organisation and/or marketing innovation</b>	:	:	:	4079	4353	4162	1805
<b>Enterprises with product and/or process innovation and organisation and/or marketing innovation</b>	:	:	:	3956	2626	1265	852
<b>Successful innovators</b>	3963	5136	5970	5748	3631	1691	1529
<b>Product only innovators</b>	582	472	525	710	635	351	313
<b>Process only innovators</b>	413	1203	1169	1965	955	706	511
<b>Product and process innovators</b>	2968	3461	4276	3073	2041	634	705
<b>Innovators with unfinished or abandoned activities</b>	20	35	43	159	132	115	311
<b>Non-innovative enterprises</b>	19421	20853	22475	19993	18214	22898	24735

Source: National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

Observing the evolution of RDI projects within the frame of agriculture and general promotion of agricultural sciences (*Table 5*) the past five years 2011-2015 have a very heterogeneous evolution. The number of programmes for agriculture according to the NABS 2007 is relatively large considering the entire range of covered sectors reaching over 10% in 2015. However, the evolution over this short and recent period of time has oscillations far too large to be comprehensible. The only pertinent observation with regard to this evolution indicates lack of consistency and respectively an absence of a strategic intervention for both General University Funds or other sources.

**Table 5. Typology of RDI projects, 2011-2015 (no.)**

Type of RD programmes (NABS 2007)	Years				
	2011	2012	2013	2014	2015
<b>Total, of which NABS programmes:</b>	9518	8394	7421	8143	7872
<b>Agriculture</b>	872	868	1244	737	794
<b>General promotion of knowledge: RD financed from General University Funds (GUF), for:</b>	2161	2073	1033	1066	1663
<b>Agricultural sciences</b>	93	30	32	36	94
<b>General promotion of knowledge: RD financed from other sources than GUF, for:</b>	3502	2898	2496	3460	2763
<b>Agricultural sciences</b>	53	21	48	56	31

Source: National Institute of Statistics, TEMPO Online data series, interrogated 04.2017

The micro-regional scale of the LAG allows its actors to be closely connected to the current and future development opportunities and well placed in the public policy support mainstream. From the total of 189 participants to the animation and information sessions almost one third have responded to the question related to the innovative projects expected in their future LAG. This figure does not surprise by its low level considering the spectrum of the participants where representatives of local authorities count for 45% of the future members and other NGO representatives, farmers and rural entrepreneurs have a more ardent set of priorities. Of high relevance is the observation that three out of the first five most ranked options representing almost 1/2 (47.46%) of the total number of expressed options are non-agricultural while 1/3 (33.90%) are directly linked to the agriculture (*Table 6*).

**Table 6. Innovative projects' intentions/expectations in LAG (no., %)**

Options	Number	Share of total respondents
<b>Non-agricultural activities, services, rural business</b>	12	<b>20.34%</b>
<b>Public physical infrastructure</b>	10	<b>16.95%</b>
<b>Culture and sport activities/events</b>	6	<b>10.17%</b>
<b>Information, dissemination and communication</b>	5	<b>8.47%</b>
<b>Agricultural infrastructure</b>	4	<b>6.78%</b>
<b>Processing (of agricultural outputs)</b>	4	<b>6.78%</b>
<b>Alternative energy</b>	4	<b>6.78%</b>
<b>Modernising the agriculture</b>	3	5.08%
<b>Environment</b>	3	5.08%
<b>Culture and sport infrastructure</b>	2	3.39%
<b>Conditioning and storage</b>	2	3.39%
<b>Marketing, markets, association and producer groups</b>	2	3.39%
<b>Social activities/events</b>	1	1.69%
<b>Social infrastructure</b>	1	1.69%

Source: Processed primary interview survey data 02.2016

The high level of interest for non-agricultural innovation, moreover for innovative approaches linked to the social aspects, services, public infrastructure, culture and sport coming upfront environment or alternative energy indicates a precise concern for the increase of the quality of life in rural area unprecedented in earlier priority sets and linked to the potential input and impact of the innovation in rural life.

## CONCLUSIONS

The findings highlight the realism of the local actors' expectations closely linked with the vocation for development of the territory, the priorities and the strategic goals at a micro-region scale. The innovation framework particularly for agriculture and rural area could further take into consideration the possibility to operate with a finer tuning in terms of territorial and sectoral iterations. The current replication of national and community assumed priorities organised in unique sets and presents for innovation and its transfer as product, process or both appears to be less appealing for the rural local actors. Shifting the target from companies or business entities towards actors and their forms of representation including networks or early unstructured clusters could represent a change with a considerably higher impact in the Romanian rural area.

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