

Scientific report on the implementation of the project for the third reporting period

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Project PN-II-RU-TE-2014-4-0017, Contract 286/2015: *Social sustainability and acceptability of biomass production and utilization in Northern Eastern Romania (BiomassS)*

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¹ Preliminary results. Please do not quote.

1 The objectives of the third reporting period (2017)

The overall objective of this project is to evaluate the current model of social sustainability of the resource allocation in the production of wood biomass.

The third phase of this project had the following specific objectives:

- 1) Investigating the social corporate responsibility of the industrial users of the wood biomass;
- 2) The assessment of the sustainability and the social acceptability of the current model of the biomass allocation.

2 Activities undertaken and results achieved

2.1 Investigating the social corporate responsibility of the industrial users of the wood biomass

The activities planned in 2017 were related with the investigation of the corporate social responsibility amongst the industrial users of the wood biomass for energy production that supposes the identification of the target population, and the conceiving, testing and implementing the interview protocol.

Based on CAEN codes, and on the data basis acquired through the research project we have identified eight industrial users of the wood biomass for energy production (Table 1).

NrCr t	Industrial user	Since:	Location	County	Termic energy (MW/h)	Electric energy (MW/h)
1	A6 IMPEX	2007	Dej	Cluj	0	9.73
2	BIOENERGY SUCEAVA	2013	Bucuresti	Bucuresti	0	26
3	EGGER ROMANIA	2014	Radauti	Suceava	0	14.5
4	HOLZINDUSTRIE SCHWEIGHOFER Sebes (Bioelectrica Transilvania srl)	2003	Sebes	Alba	36.1	10.9
5	HOLZINDUSTRIE SCHWEIGHOFER Radauti (Bioelectrica Transilvania srl)	2008	Radauti	Suceava	55.5	15
6	HOLZINDUSTRIE SCHWEIGHOFER Reci (Bioelectrica Transilvania srl)	2015	Reci	Covasna	38	15
7	RIG BIOMASS	2010	Tarcau	Neamt	0	1.25
8	SAUCOLEMN	2014	Vama	Suceava	3.44	0.3
9	SORTILEMN	2013	Gherla	Cluj	7	1.23
	Total				140.04	93.91

We have conceived a interview protocol in mai 2017 that has been tested and then implemented in Mai-July. The interview protocol was structured around three main topics (description of the firm, in general; investigating the corporate social responsibility in environment protection; investigating the corporate responsibility on the social field), grouped in 17 open questions. A part of the data collected was used for preparing the presentations to the international conference from Slovenia (SEEP, 2017).

2.2 Assessment of the biomass allocation model sustainability and social acceptability

2.2.1 Integrating the results concerning the ressource and the demand

The main research activities looked at the study of the resource predictability and productivity versus the set of actors in the forest sector, the study of the ratio between the allocated resource/ needed resource and the analysis of the social perceptions / responsible initiatives of the industrial users.

The predictability of the resource in relation to the set of actors engaged in forestry activities and the needed resource is subject to a presentation in an workshop organized in Jena, Germany, entitled "Wood balance in Romania". The results of a demand-offer analysis suggest the existence of a statistically uncovered difference of cc. 20-30% between the required resource and the official data of harvesting. On the other hand, the principal component analysis (PCA- Figure 1) shows a large regional variation in the demand driven by the forest exploitation segment and in the primary wood industry segment.

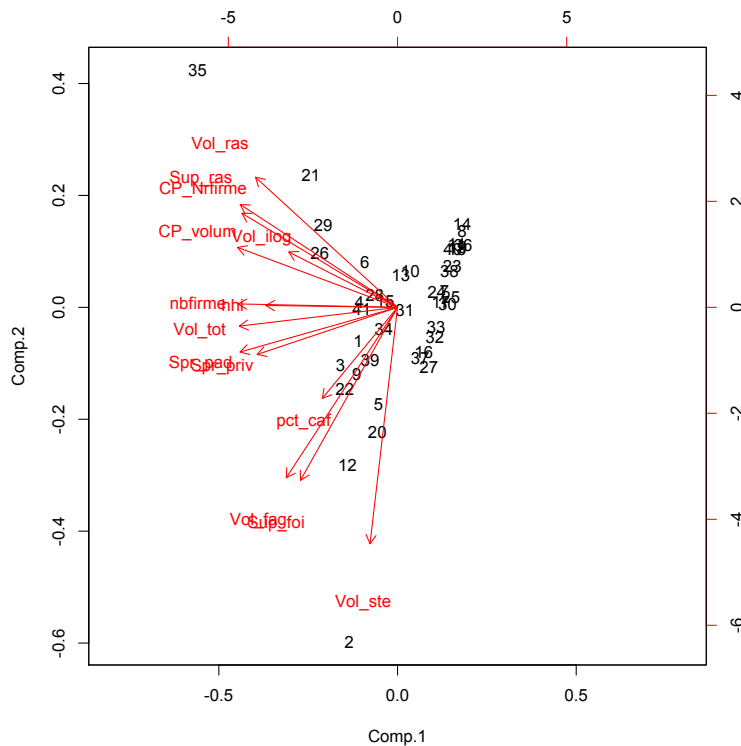


Figure 1. Distribution of counties (numbers) according to the main factors of demand (variables differentiated by red color).

The analysis of social perceptions / corporate social responsibility initiatives has been the subject of a presentation on the international conference in Slovenia (SEEP, 2017: Laura Bouriaud, Cosmin Cosofret, Ramona Scriban, Marian Gogan, Mihai Enescu, Liviu Nichiforel: Social networks and norms driving the firewood market for households needs) as well as an article in co-operation with researchers in rural sociology from Bordeaux, France.

2.2.2 Specific indicators for analyzing the social sustainability of the biomass allocation model

2.2.2.1 *Theoretical background*

Since 1991, it has been argued that Corporate Social Responsibility firms "should strive to make profit, respect the law, be ethical, and be a good corporate citizen" (Carroll, 1991). Carroll's advanced definition (1991) gives corporate social responsibility four constitutive elements, namely: economic, legal, ethical and philanthropic (Burton and Goldsbey, 2009):

1. Economic - the responsibility to gain from stakeholder investment
2. Legal - the responsibility to comply with the law.
3. Ethics - the responsibility to adhere to social norms uncodified by the laws but expected by the actors operating in the society
4. Philanthropic - the responsibility to have a defined role in volunteering for a segment of society.

In this register of concerns, the relationship between biomass supplier / producer and local communities is a topical issue that has become much discussed, especially from the perspective of access to firewood. Forestry legislation (forestry code) has provisions that support the use of forest resources at local community level. However, the subsequent implementation of these forest policy objectives proved to be flawed, factualised by the current firewood crisis as an expression of the lack of satisfaction of local communities' expectations. Although the way forest management has to be subject to the same regime rules regardless of the form of ownership, the transfer of output to local communities can be greatly influenced by the form of ownership. To describe this relationship between local communities and supplier / producer, we used the model developed by Schlager and Ostrom (1992) on the five forest management property rights, adapted to the project objectives (Figure 2). Four systems for the use of forest resources can differ, differing in degrees from social acceptability:

- the private system - based on the form of private ownership of forests - where the right to sell biomass production belongs to the owner;
- community system (common, composes) - based on the form of communal property - in which community members can be directly involved in the decision-making process;

- the municipal system - based on public ownership of the ATU - where community members can be indirectly involved in the decision-making process through local counselors;
- the state system - based on the form of public property of RNP-Romsilva - and where special legislative provisions are those that can ensure the transfer to the members of local communities.

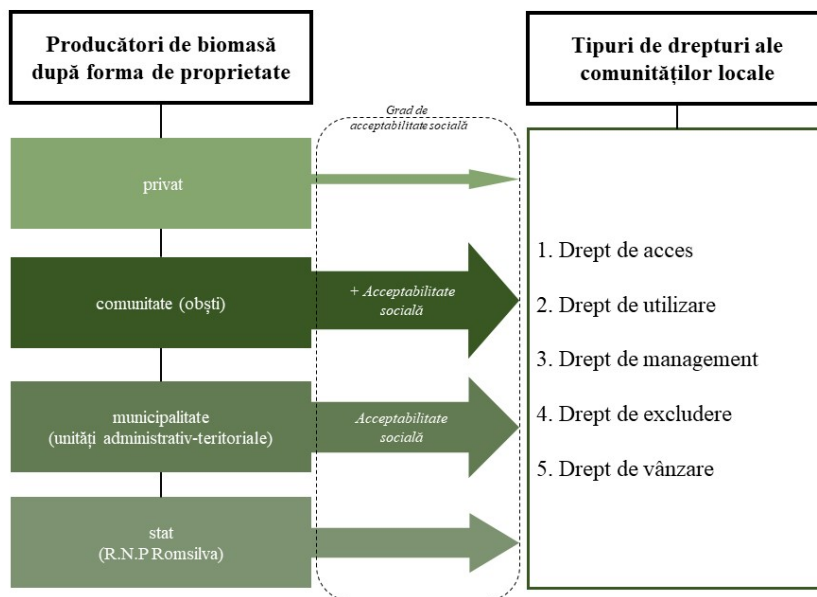


Figure 2. Degree of social acceptability at the level of ownership

2.2.2.2 Existing systems of sustainability assesment that may be adapted at the regional level

At present, the assessment of social sustainability is best addressed by forest management certification standards. At international level there are two certification schemes:

1. FSC® (Forest Stewardship Council®) is a non-profit, non-governmental organization based on ecological, economic and social forest management certification standards. It is a system that has appeared since 1993 and has been widely applied in the forests of the world.
2. PEFC® is a nonprofit non-governmental organization dedicated to the promotion of sustainable forest management through independent third-party certification. This type of certification is addressed to small and medium sized owners in particular.

At present, only the FSC® Certification Scheme is applied in Romania through various certification bodies that have a certification standard tailored to the legal requirements in Romania. The system has begun to be implemented in Romania since 2002, through the certification of the Văratec and Târgu Neamț Forest Districts. In 2005 the Forest District of Naruja was also certified as the first private forest district. At present, RNP-Romsilva has 2.54 million certified hectares, and 25 private forest districts are certified. The assessment

of compliance with criteria and indicators specific to social sustainability according to the certification criteria is addressed through various indicators (Table 2).

Table 2. Forest certification indicators relevant for the assesement of the social sustainability of biomass allocation

PRINCIPLE 2. PROPERTY, RIGHT OF USE AND RELATED RESPONSIBILITIES. Ownership and long-term property rights over land and forest resources will be clearly defined, documented and legally established.	
Criteria: 2.2; 2.3	Indicators: 2.2.1.; 2.2.3.; 2.2.4.; 2.3.1. ; 2.3.2. ; 2.3.3.
PRINCIPLE 4. RELATIONS WITH THE COMMUNITY AND THE RIGHTS OF EMPLOYEES. Forest management activities will maintain or improve the long-term social and economic well-being of workers and local communities.	
Criteria: 4.1; 4.4; 4.5;	Indicators: 4.1.1.; 4.1.2.; 4.1.3.; 4.4.1.; 4.4.2.; 4.4.3.; 4.4.4.; 4.5.1.; 4.5.2.; 4.5.3.

Source: „Standardul NEPCon interimar pentru evaluarea managementului forestier în Romania”. <https://www.nepcon.org/sites/default/files/Files/FSC/Stakeholder-info/Standards/NEPCon-Interim-Standard-Romania-30Jan15-v2.pdf>

2.2.2.3 Social sustainability indicators to assess the relationship producer – local community

From the analysis of the social perceptions of the studied communities, the corporate social responsibility of the biomass users for the production of energy and the system of indicators currently used for forest certification, it appears the need to build social sustainability indicators centered on the local community. The indicators should cover several categories of priorities:

1. The first priority of investigation should be related with the model of the local utilisation of the ressource:

- a. Is the local community benefitting from the biomass produced around?
- b. Is there a form of direct transfer of the biomass benefits towards the local community?
- c. Which are the needed steps for approvals in timber harvesting?
- d. Which is the degree of covering the local demand on firewood?

2. The second priority of investigation should be related with the local community participation to the decisions about forest management:

- a. To what extent can local communities decide on the use of wood?
- b. To what extent are local communities involved in the decision making process of forest resource use?

3. The third priority should be given to identify indicators for the transferability and alienability of the property rights in order to allow the optimisation of the biomass allocation process:

- a. What are the restrictions on trading in forest land?
- b. What are the restrictions on trading the harvested timber?
- c. Under what conditions is land concession allowed for biomass production?

A system of social sustainability assessment indicators from the point of view of the private forest owner was accepted for publication in the Land Use Policy (Nichiforel et al., 2017). The methodology proposed in this article can also be adapted to local communities case.