

Short Rotation Woody Crops (SRC) plantations for local supply chains and heat use

Project No: IEE/13/574



Report on training events for farmers

“Short rotation woody coppice in Croatian agriculture and rural economy”

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1 Introduction

The aim of the first SRCplus training seminar for farmers was to introduce to the potential stakeholders, primarily farmers, the concept of short rotation coppice (SRC) and SRC local supply chains, and to encourage the stakeholders to consider their involvement in biomass production from SRC and engagement in local supply chains.

The seminar was organised at the premises of Vukovar- Srijem County, in the County hall, and in collaboration with local partner Ekosustav d.o.o. The presentations were prepared and presented by EIHP and invited speakers, who contributed to the overall quality of the event.

Apart from farmers, relevant authorities in the field of agriculture (Advisory service for agriculture and forestry, Ministry of agriculture, County's department for agriculture) also participated in the seminar. All the authorities previously mentioned are either in direct communication with farmers, or are bearers of policies in agriculture, and therefore have a potential for significant impact.

The participants were introduced to the project and available project materials. Furthermore, they were informed about characteristics of SRC cultivation (species, agro technical measures), possibilities of sustainable SRC development within the county, potential for usage of woodchip from SRC and obstacles in SRC development. Sustainable agricultural practices for wood chips production from SRC were also promoted in order to highlight environmental benefits of SRC.

The last part of the seminar was organised in form of discussions between the participants and the focus shifted from information provision to active involvement of participants in discussion. The situation in Croatia is different than in some other project partner countries since there are no commercial SRC. Therefore, prior to the establishment of first commercial SRC plantation, some major baseline conditions must be resolved, primarily legislative ones.

In general, at the seminar a clear interest for SRC was shown, but it was indicated that many insecurities and limited experience inhibit the involvement of farmers in SRC biomass production. However, this seminar, directed towards creation of more favourable conditions for SRC development, is seen as a one step towards better understanding of the SRC system. High interest from local authorities is a good start towards inclusion of SRC into regional energy or development plans and strategies.



Figure 1: Seminar participants and venue

2 Reaching the stakeholders for training activities

Prior to the training, potential beneficiaries of the seminar in target region were identified. The list of potential beneficiaries did not only include farmers, but as well other actors in the supply chains and actors relevant to the topic of the seminar. The associations of farmers, municipalities and other organisations were invited to the trainings, as well as local development agencies, local authorities and local enterprises. The local partner also contributed to invitations by preparation of an additional contacts list for training, and by personal invitations to several stakeholders. Several associations were asked to circulate the invitations among their regional contacts. After the first round of invitations, the second was sent several days before the training (see Annex for the invitation).

3 Participants

Application for the training was enabled by Google forms, e-mail and telephone. In total, 16 applications were received via Google forms and 8 via e-mail. Finally 31 participant attended the seminar, and when EIHP staff is added we come to a total number of 34 participants, but 31 trainees (see annex).

The structure of the participants- trainees (31) is shown below:

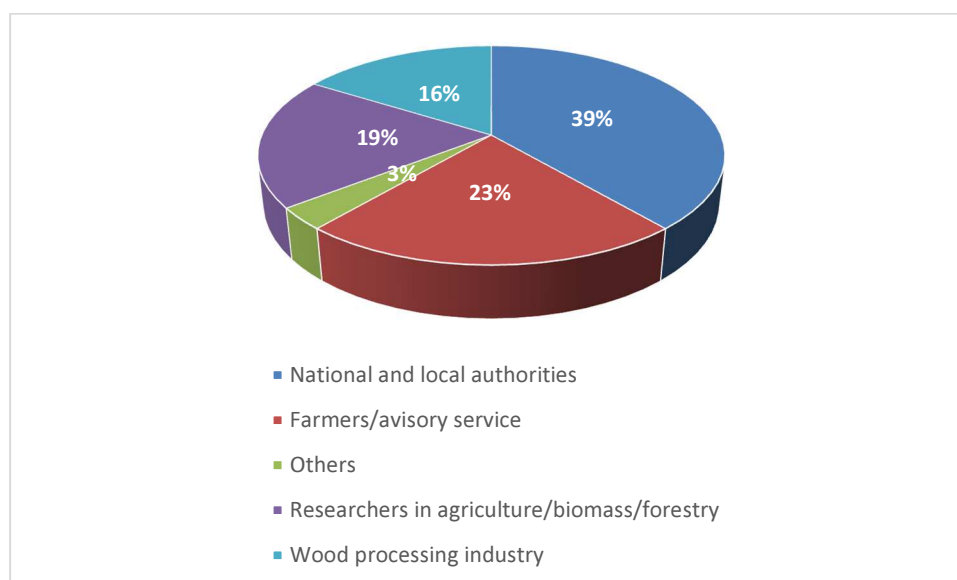


Figure 2: The structure of the participants (trainees)

It can be seen that the percentage of farmers is relatively low, what is attributed to the time of the seminar. Farmers are very active in June when they prepare for harvest, so it was not likely that many of them will attend the seminar. Furthermore, among farmers this topic is considered as a topic within forestry area, therefore they do not see their interest in this field.

4 Training concept

The seminar was open by Head of the Department of Agriculture, Forestry and Rural Development of Vukovar- Srijem County, Mr. Andrija Matić, who warmly greeted the participant and welcomed the topic. In total, the seminar was composed of 8 presentations presented by three EIHP project staff and 2 presentations from invited speakers.

Ms. Fištrek (EIHP) presented SRCplus project, the project objectives, activities and results so far, followed by the general presentation on SRC with focus on species, agricultural practices and sustainability issues. Further on, she presented experiences from countries with advanced SRC market, the role of farmers in SRC chains, and possibility of development of local supply chains from perspective of heat consumption within the country.



Figure 3: Ms. Fištrek (EIHP)

Mr. Perović (EIHP) presented mechanisation for SRC production, more precisely mechanisation for planting and harvesting SRC. Furthermore he presented technologies for using woodchips for energy production and particularities related to technology.



Figure 4: Mr. Perović (EIHP)

Ms. Kulišić (EIHP) performed an economic analysis of SRC production on an example of Vukovar- Srijem County. She demonstrated and compared the economy of various option for farmer regarding the land usage in comparison to SRC production.



Figure 5: Mrs. Biljana Kulišić (EIHP)

Invited speakers Mr. Ivanović and Mr. Glavaš presented biomass potentials of pruning residues and their possible use for energy production in the County.



Figure 6: Mr. Glavaš (Faculty of Electric Engineering in Osijek)



Figure 7: Mr. Ivanović (PANON- Institute for Strategic Studies, Osijek)

At the end Mr. Benković from Ministry of Agriculture presented the status of SRC in agricultural and rural development policies of EU and Croatia, with focus of financing possibilities for SRC development within the policies and programs.



Figure 8: Mr. Benković (Ministry of Agriculture)

After the presentations, the final part of the seminar was reserved for discussion (described in details in chapter 5).

During the seminar one coffee break was organised. Seminar was concluded with lunch for the participants and opportunity for networking.



Figure 9: Coffee break and networking

For the preparation of the seminars, mostly materials developed within SRC plus were used, but as well materials from other projects.

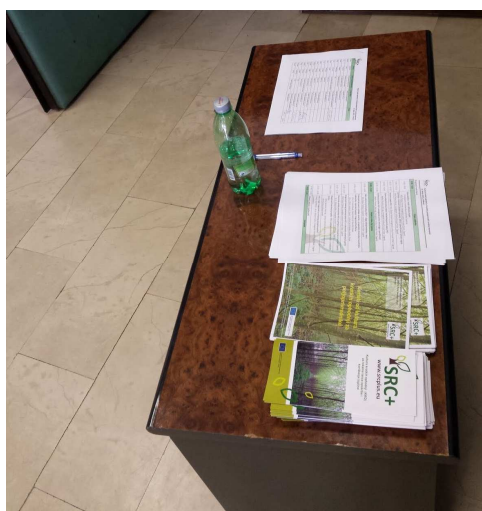


Figure 10: Project material available for participants

5 Discussion

The discussion was quite fruitful as it generated information that could facilitate further project goals implementation.

Mr Zlatko Benkovic, a representative from the Ministry of Agriculture has shared the information that there is on-going preparation of Law on SRC in Croatia which is expected by the mid 2016. Currently, there is only a small and closed working group of Forestry Direction involved in the preparation of the Law but he will notify the SRCplus team as soon as there are novelties to share. At this point it is known that the Law will deliver a list of land types suitable for SRC plantations which will define eligibility of farmers for EAFRD subsidies. The Law on SRC is belated as the deadline to be included in ARKOD (the prerequisite for IACS and eligibility to rural programme payments) is 15th June 2015.

Prof.dr.sc. Vesna Vukadinovic and prof.dr.sc. Irena Jug from Agriculture Faculty in Osijek, have reminded that soil is non-renewable source that has to be used with care for future generations. They suggested that SRC plantations should be planted on marginal and degraded soil only and invited the Ministry for cooperation when making the new Law. They emphasised that soil analyses of each potential plantation surface are needed prior to planting, since that map of soil shows prevailing soil type, while in reality every area is comprised of several different soil types. Also, the phytoremediation potential of the SRC should be explored further.

The Head of the Agriculture Department at the Vukovar-Srijem County, Mr Andrija Matic, has made a small survey on availability of land slots suitable for SRC in the County and came up with minimum of 200 ha scattered within 6 administrative units (marginal land, illegal dumping sites, closed landfills, waste water treatment plants, old brickyards...), which is a good start. He gave his support to the project and announced that the County is ready to have a follow up project that would be more concrete and allow plantations. He also suggested several measures of state support to SRC development, such as tax exemption for SRC machinery and for fuels.



Figure 11: Discussion

The discussion identified a family business that provides service of cleaning the water canals in between fields from willows, poplars, “amorfa” (*Amorpha fruticosa* L.) and black locust. This service could be also engaged in harvesting SRC plantations of similar features in terms of wood diameter and length.

SRC plantation could not represent a single source of income for a farmer as SRC plantations are not competitive with conventional agriculture. However, planting SRC on marginal or degraded land and utilising the possible ecosystem services that SRC could provide is an attractive option.

A nursery with willow and poplar clones suitable for SRC has been detected near Osijek. It cooperates with Croatian Forests and Forestry Institute. The nursery will be contacted for the future project activities.

After hearing that there is only experimental findings on SRC in Croatia, a 15 ha private forest owner has invited SRCplus project to make research if suitable. On his land, there are various slots of willow, poplar and black locust, depending on the soil type. In addition, a wood processing industry with long tradition has invited SRCplus project to their experimental paulownia plantation of 4 ha, that they have planted recently.

Ministry of Agriculture assumes that there is about 5,000 ha under paulownia so far. The seedlings are not on the approved plant list which makes these plantations illegal. However, so far, most of the plantation owners are focused on production of wood for floating vessels and music instruments. There is a general belief that there is a lack of woody biomass in Croatia given the fact that all biomass from Croatian Forest is already contracted. However, SRCplus detected local spots with excess biomass which cannot find its market as there is little awareness of their availability.

In conclusion, Hrvoje Glavaš, PhD, Faculty of Electric Engineering in Osijek made a remark that Croatia lacks primary energy in general and most of that primary energy demand for heating comes from fuelwood. Even if every household plants few trees in their backyard to meet the household’s own heating demand would be beneficial for the overall nation.

Finally, it was concluded that more research is needed that should support the agriculture in development of SRC plantation, and that the SRC systems should be developed in such way that they provide benefits for society in general.

6 Evaluation of training

A questionnaire was prepared in order to receive a feedback from trainees on the training activities and the training concept, but as well to understand their general attitude towards SRC. The feedback after the first training will serve as a basis for development of improved concept and materials for the 2nd training.

The questionnaire was filled in by 13 responders (38% of participants). Most of the responders attended the seminar due to general interest in renewable energy sources, while only 4 attended due to particular interest in SRC. When asked to rate their knowledge on SRC prior the seminar, the responses were very diverse, but in general most of the responders rated their knowledge on SRC as fair to very good. When asked to rate the improvement of their knowledge on the topic, most of the responders indicated somewhat better knowledge on the topic. 33 % of responders were absolutely satisfied with the seminar, while 67 % were satisfied with some segments of seminar. The average rating for all lectures was between 3.7 and 4.7 (on the scale from 1-5), with an average rate of 4.21. From these results, it can be interpreted that in general the lectures were very good to excellent.

A comment was made that the seminar should also have addressed paulownia for biomass. 60 % of responders would like to be included in SRC chain as producers, woodchip users or in some other role, while 40% of responders either need more information or do not see their role in the chain. 6 responders stated that they would be interested in establishment of SRC production. The area of land that they could reserve for SRC production is ranging from 1-50 ha, while 5 – 10 ha is mostly preferred option. The biggest barriers to SRC development according to the responders are undeveloped market, low price for woodchips, high initial costs for plantation establishment, low availability of information on SRC and legislative barriers.

The responders were asked to rate the significance of different benefits from KKO for environment and society. Phytoremediation is rated as the most significant benefit, followed by improvement of water quality by nitrate assimilation and neutral balance of CO₂ emissions. SRC as additional structural element in landscaped is rated as least significant benefit, but still with a high score of 3.5 from maximum 5 points.

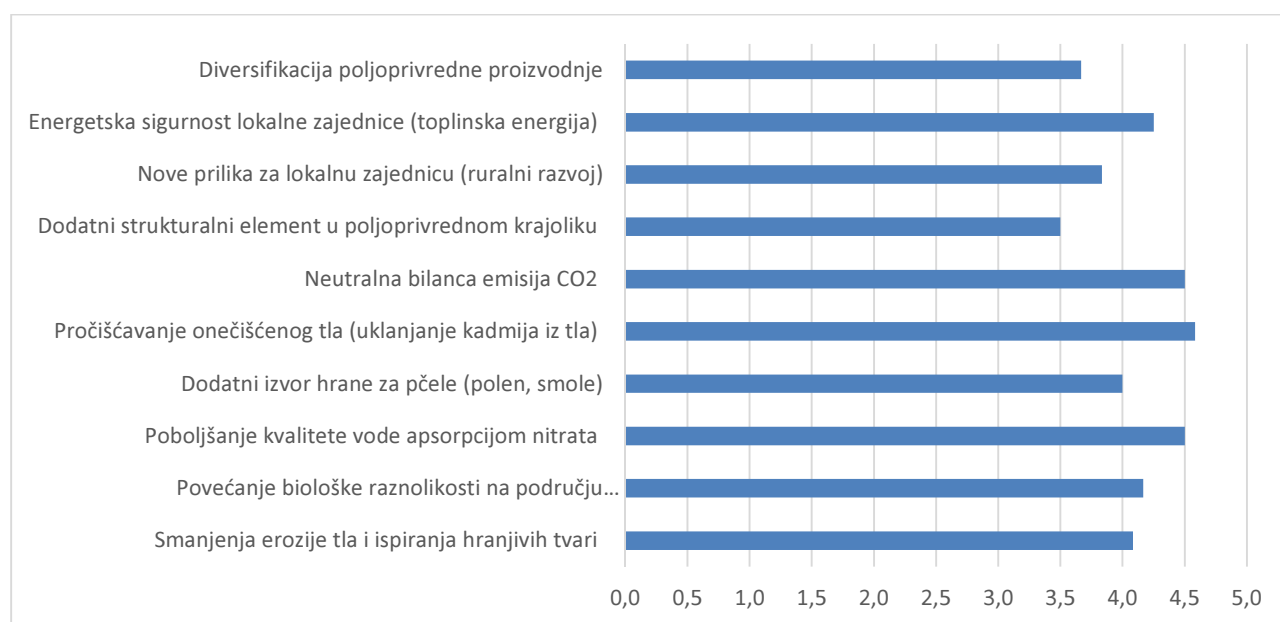


Figure 12: Significance of benefits from SRC for responders (in Croatian)

7 Media coverage

The event was well covered by local media (television, newspapers, radio and web portals).

Table 1: Media coverage of the seminar

MEDIA	TYPE	TITLE
www.glas-slavonije.hr	Local web portal	Kako uzgojiti bagrem, topolu i vrbu za energetske potrebe
www.vusz.hr	Official web portal of Vukovar-Srijem county	Seminar o kulturama kratkih ophodnji za energiju
www.agroklub.com	Web portal for news and information from agriculture-national coverage	Novitet koji budi zanimanje!
Glas Slavonije	Regional newspapers	Kako uzgojiti bagrem, topolu i vrbu za energetske potrebe
Vinkovačka televizija-Dnevnik	Local TV station daily news	Seminar o kulturama kratkih ophodnji
www.ekosustav.hr	Web portal of local partner	U Vinkovcima održan seminar o kulturama kratkih ophodnji za energiju
www.cibalia.info	Local web portal	Seminar pod nazivom Kulture kratkih ophodnji u hrvatskoj poljoprivredi I ruralnoj ekonomiji održan u Vinkovcima
www.vinkovci.com.hr	Local web portal	Kulture kratkih ophodnji



Figure 13: Press release for the newspapers and television