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Table of Contents

1.	List of Abbreviations	3
2.	Executive Summary	4
3.	Methodology	5
4.	Project region/Country Context	6
5.	Focus, Objectives and Impacts	8
5.1.	Identification of All Priority Needs	8
5.2.	Identification of Needs to be Addressed in the Framework of FORESDA	9
5.3.	Objectives and Expected Impacts	11
5.4.	Links with other FORESDA Outcomes	12
6.	Actions And Schedule	14
7.	Key Implementation Steps	16
8.	Responsibilities	17
9.	Target Groups and Stakeholders	18
10.	Resources and Budget	19
11.	Communication Activities	20
12.	Risk Analysis	21
13.	Appendix I: LIAP BiH Federation - Table Overview	22

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1. LIST OF ABBREVIATIONS

FORESDA - Project "Forest-based cross-sectoral value chains fostering innovation and competitiveness in the Danube region"

FBI – Forest-based industry

SMEs – Small and medium-sized enterprises

LIAP – Project output 3.2 Local Innovation Action Plan

B&H – Bosnia and Herzegovina

2. EXECUTIVE SUMMARY

One of the activities of project FORESDA is to create a joint Transnational Strategy (O.3.1) which aims to develop forest-based cross-sectoral value chain and to convey this strategy in Local Innovation Action Plan for developing cross-sectoral innovation processes for SMEs in each region. The Local Innovation Action Plan contributes to the analysis of the internal strengths and weaknesses as well as of the external opportunities and threats to the sector. In light of the needs and problems of the sector and the challenges ahead, investment needs are estimated and policy recommendations are formulated. In this way, the Local Innovation Action Plan contributes to the formulation of a number of possible policy interventions for the agriculture and rural development policy in line with the needs for the development of the sector. Also, Local Innovation Action Plan (O.3.2) provide steps of implementation of the Transnational Strategy (O.3.1) through the activities, cooperations and communication on the regional level.

3. METHODOLOGY

The following LIAP for improved technology transfer and innovation processes in SMEs of the forest-based sector is defined specifically for the project region Bosnia and Herzegovina, Federation of Bosnia and Herzegovina, as one of the main outputs of the FORESDA project ([Interreg Danube Transnational Programme](#)). All LIAPs should be developed in coherence with the set Transnational Strategy (O.3.1), which aims to improve the framework conditions for forest-based cross-sectoral value chains and describes how the project will address identified needs with respect to the regional innovation systems (RIS), and with a focus on cross-sectoral aspects. The LIAPs on the other hand, should specify the concrete implementation – activities, timeline, responsibilities, and measurable objectives – of the Transnational Strategy elaborated at the project level in each region. Accordingly, a validation workshop has been organized in each region, and the participants - relevant stakeholders from FBI and RIS environment - had the opportunity to discuss and contribute to the proposed actions and measures. Their comments and suggestions are integrated in the document and therefore the LIAP reflects the real market needs on the local level.

4. PROJECT REGION/COUNTRY CONTEXT

Forests and forest lands in the Federation of B&H cover an area of 1,519,977 ha, of which about 1,244,000 ha or 81.8% are state-owned, and 277,000 ha or 18.20% are privately owned.

Wood industry is an important segment of the economy of the Federation of B&H. Its development is based on the use of domestic natural resources and is traditionally export-oriented. FBI of the Federation of B&H has a long tradition and is the oldest industrial branch. FBI is environmentally friendly, has an export potential with a market of over 60% and is a commercial branch that records a high surplus.

FBI consists of several subsectors: wood and wood products, sawn timber, slabs, veneer, building joinery, floors and parquet, and wooden packaging), furniture and prefabricated timber.

Furniture production includes a complete range of solid wood furniture and upholstered furniture. Due to, for the most part, outdated assortment, insufficient quality and flexibility, the rating of assortments according to market benchmarks of quality and design classifies the domestic products of the furniture industry into the segment of the lower or middle price class. The furniture industry from solid wood can potentially represent the most attractive export product.

Construction joinery is mainly oriented to the domestic market. The reason for this should be sought in the absence and mismatch of domestic and EU standards and the use of plastic in the manufacture of windows and doors.

The production of prefabricated (custom-made) houses has a fairly long history in the Federation of B&H and represents a fairly good development opportunity for this part of the wood processing, especially in the future from three aspects:

1. Ecological acceptability, because it is mostly about the use of natural materials,
2. Energy Efficiency,



3. Speed, construction prices and capability – custom-made

In order to increase the competitiveness of wood products, it is necessary to approach research and marketing as well as the development of product quality, design and production processes. Information and communication technology is the most important infrastructure of the 21st century and together with education it becomes the largest factor of growth and prosperity of FBI sector.

The joint progress of the FBI sector requires: macroeconomic stability, openness, an efficient financial market, long-term sustainability of growth, education, innovation, flexibility, infrastructure and information connectivity.

5. FOCUS, OBJECTIVES AND IMPACTS

5.1. IDENTIFICATION OF ALL PRIORITY NEEDS

Priority area 1 - Image & Lobbying

- Initiate activities to prepare the strategy of export wood processing which will be defined promotion and branding of wood products for target markets
- Lobbying for adoption of the Federation of B&H Forest Law, wood processing strategy and export strategy for wood processing
- Initiating activities for improving the image and better promotion of forestry and wood processing in the Federation of B&H

Priority area 2 - Policy & Legislative Support

- Exchange experiences and best practices regarding policy & legislative support
- Promotion of EU directives and regulations with emphasis on the importance of adopting them for the Federation of B&H
- Improvement of business relations between the forestry companies and wood processing companies in Federation of B&H.
- Promotion of Forest Law, wood processing strategy and export strategy to improve FBI sector

Priority area 3 - Funding & Business Environment

- Improve local infrastructure for cross sectoral initiatives targeting FBI, primarily IT and creative industries
- To create activity around formation of clusters - efficient, effective and concurrent SME from the FBI have to establish clusters in order to increase the level of capacity infill, presale of work and to widen the market for their products
- Develop a program of support to the new businesses based on scientific innovation
- Support local and regional sectoral initiatives to promote of processing for a high value assortment or product.

Priority area 4 - Education & Human Resources

- Introduction of a dual education system in secondary schools and faculties - should be adapted to market needs, expressed through: good knowledge of the practical part of work, expressed responsibility towards working tasks, computer skills, willingness to work in a team, knowledge of technologies and materials.
- Promote sectoral and cross sectoral dimension in local curriculums with regional FBI actors

5.2. IDENTIFICATION OF NEEDS TO BE ADDRESSED IN THE FRAMEWORK OF FORESDA

The following section describes the needs to be addressed in the framework of FORESDA in the project region Federation of B&H, according to the priority areas of Transnational Strategy (TS), which is developed as a strategic document and therefore a basic document for the development of LIAP:

Priority area 1 - Image & Lobbying:

- FBI si a key sector (with metal industry) for the economy of the Federation of B&H – export oriented
- different image depending on the degree of processing (forestry has negative image, positive image has the production of high-quality furniture)
- Define target markets for products or product groups and develop product promotion for targeted markets
- To strengthen lobbying organizations and activities on formal and informal level

Priority area 2 - Policy & Legislative Support

- The previous practice showed that the relations between the forestry and wood processing companies was not sufficiently and well regulated when they were part of the same organization, and this continues to be the case even now when they are separate. As a result of this, one of more important activities will be the

improvement of business relations between the forestry companies and wood processing companies in Federation of B&H.

- Cross-sectoral cooperation FBI with metal and textile industry
- To improve development strategy on each authority level.
- more quality support programs for SMEs on each authority level in Federation of B&H
- more quality support programs for SMEs in Federation of B&H on EU and other donors level

Priority area 3 - Funding & Business Environment

- To modify fiscal regimes beneficial to innovation activities
- it is important to highlight the great difference in the development of industry between the countries of the Danube Region and the Federation of B&H
- Adopt a program of support to the new businesses based on scientific innovation (deferral of tax liabilities, loan guarantees, company funds ...)
- The availability of raw materials, greater possibilities of export and the processing tradition lead to the creation of new or revitalization of the existing capacities of further
- Based on statistical data on production of forest assortment and use of raw materials for production of timber, it can be concluded that the available production capacities are used very little. On the other hand, due to an extensive increase in capacities, here are problems in the purchase of raw materials, their price and quality. Unbalanced offer/demand and inefficient mechanism of distribution of raw materials in the sawmill industry is one of the basic problems that the wood industry is facing.
- Processing for a high value assortment or product

Priority area 4 - Education & Human Resources

- The existing educational system in FBiH, from primary, secondary, tertiary and life-long education and learning should be reformed and adapted to the needs of

the labor market. In order to reach a stronger development of the wood industry sector, in addition to significant investments into new technologies and market promotion, it is also necessary to invest in staff that may accept and maintain new technologies and work on the improvement of product quality and development of new products.

- Faculties have to be subject to continuous internal and external evaluation. Study programs have to be in compliance with the interest of a changing market – dual educations system.
- Secondary school education curricula for the wood processing industry should be adapted to market needs, expressed through: good knowledge of the practical part of work, expressed responsibility towards working tasks, computer skills, willingness to work in a team, knowledge of technologies and materials.

5.3. OBJECTIVES AND EXPECTED IMPACTS

The following section describes the objectives and expected impacts related to the short-term needs described in previous section.

OBJECTIVES	EXPECTED IMPACTS
Improving the image of the sector	Based on the improved image, the FBI sector will become an interesting field of forest industry
Improvement of business relations between public institutions and companies involved wood processing	Greater cooperation between public institutions and companies in order to provide requestments for businesses.
Increase in the percentage of finished wood products on domestic and foreign markets	Increase participation in the current and define potentially new markets and work on access to new markets
Support SMEs in raising their competitiveness	Collect information about situation on market of raw material, technologies, market opportunities and their distribution to interested companies
Informing companies with standards and legal regulations in the EU	Regularly informing the companies about potential market opportunities through communication channels

Informing companies about possible ways of financing from international funds	Improved cooperation with companies and clusters from other countries
To support cross-sectoral collaboration within the FBI sector, including SMEs	Enhanced innovation (e.g. development of new materials or/and products) within the FBI sector
increase productivity and employment in the wood industry.	Impact on increasing employment in the wood sector through education, practice and volunteering
Creation of a society of educated, flexible and creative people that have the possibility to permanently educate themselves and find employment	Increased cooperation between companies and educational institutions.
Participation of teachers and students at various international practical projects or workshops.	Creation of an environment that supports the development of economy based on the use of ICT technologies and knowledge

5.4. LINKS WITH OTHER FORESDA OUTCOMES

The developed LIAP in the project region of the Federation of Bosnia and Herzegovina based on the Transnational Strategy within the WP3 will be connected with other WPs in the frame of the FORESDA project. The selected priority needs, objectives and the related activities defined in this LIAP will be addressed within other work packages of the project FORESDA. This document is a result of the previous WP3 activities, mainly the regional mapping, regional strategy and regional action plan, national export strategy of wood sector, the Transnational Strategy and the Joint Action Plan.

The LIAP is a very important document and it is necessary to promote it according to WP2 - workshops and presentation of project results on the website and/or publishing articles in order to create an image of the necessary changes and improvements of the technologies and business in the FBI sector.

Based on this topic, in the WP4 (pilot environment) will be development for the region of Federation of Bosnia and Herzegovina with the focus on the promotion of building with

wood and 3D and CNC education providing the practical knowledge to woodprocessing SMEs, students and unemployed.

Within package WP6, the visits and mentoring between the different institutes (project participants) is planned (ZEDA – FF UB). The LIAP will be presented and shared within the whole project consortium.

The aim of the pilot environment is to collaborate with various SMEs for increasing their technology improvement and innovative potential. In the frame of the WP5 new value chains in the FBI sector will be discussed on the basis of the new value chains according to the LIAPs of different countries.

6. ACTIONS AND SCHEDULE

The following section contains information on the planned actions/projects corresponding with the previously identified needs, objectives and expected impacts of the respective LIAP:

Planned activities:

Priority area 1 - Image & Lobbying

1. Recognizing problems, finding solutions to developing small and medium enterprises in the wood industry
2. Improvements of image of the innovative, modern and ecological FBI sectors through different events
3. Promotion of the wood industry in the public through communication channels, and help to build a better image in public.

Priority area 2 - Policy & Legislative Support

1. Connecting public institutions with wood sector companies to create requirements for continuous production

Priority area 3 - Funding & Business Environment

1. The ZEDA Agency will support companies to participate in the EU projects (e.g. Danube Programme) and provide information and publish public calls for SMEs.

Priority area 4 - Education & Human Resources.

1. Educational programs that are accordant with the interests of a dynamic market.
2. Participation of teachers and students at various international practical projects or workshops.

The following table shows the timeline of planned activities:

ACTIONS & SCHEDULE → Timeline ↓ Action Description	Project Period 3 (1-6/2018)		Project Period 4 (7-12/2018)		Project Period 5 (1-6/2019)	
	1-3	4-6	7-9	10-12	1-3	4-6
1. Promotion of the sector through the presentation of curricula and study programs of the Mechanical faculty in Zenica						
2. ZEDA will support the principle of dual education in Mechanical faculty in Zenica						
3. ZEDA will support unformal education of students and unemployed						
4. Giving information about EU standards						

7. KEY IMPLEMENTATION STEPS

1. Promotion of the sector through the presentation of curricula and study programs of the Mechanical faculty in Zenica
Preparation - to create ideas, set-up of communication tools, dissemination of ideas (online and physically)... / April –September 2018
Dissemination - Realization of ideas - October-December 2018
2. ZEDA will support the principle of dual education in Mechanical faculty in Zenica
Preparation materials, set-up of communication tools... / October – December 2018
Dissemination - Realization - Online and physically / January - June 2019
3. ZEDA will support unformal education of students and unemployed
Preparation for education, expert, materials, software / January – February 2018
Realization - Online and physical / March - Jun 2018
4. Giving information about EU standards
Preparation materials / January – March 2018
Dissemination - Realization - Online and physically / April - December 2018

8. RESPONSIBILITIES

The LIAP will be produced by the representatives of the Zenica Development Agency ZEDA, who will immediately be the main promoters and implementers of the proposed measures for improving the image and business in the field of the wood industry. In addition to the Agency, promotion of the LIAP will also involve representatives of the Regional Working Group, including the relevant representatives of enterprises. The representatives of the Foreign Trade Chamber of Bosnia and Herzegovina / Wood industry and Forestry Association/ and Chamber of Economy of the Federation of Bosnia and Herzegovina will play an important role in the field of influence on the adoption of regulations and organizes activities and brings together a working group to develop a strategy for the export of wood processing of B&H, specifying the requirements aimed at improving production technologies, improving the education system for the needs of wood processing. Representatives of University of Zenica – Mechanical Faculty and Faculty of Polytechnic in Zenica will be part of the team that will be involved in the implementation of the of the proposed activities in the field of education. The LIAP will also include representatives of the Ministry of Energy, Mining and Industry of the Federation of B&H, the Ministry of Agriculture, Water Management and Forestry of the Federation of Bosnia and Herzegovina /Federal Forestry Directorate/, international and local professionals.

9. TARGET GROUPS AND STAKEHOLDERS

Action 1. Promotion of the sector through the presentation of curricula and study programs of the Mechanical faculty in Zenica

Target group: Local and regional institutions, FBI companies, educational institutions

Stakeholders / Interest: Chamber of Commerce, faculties

Action 2. ZEDA will support the principle of dual education in Mechanical faculty in Zenica

Target group: Local and regional institutions, FBI companies, educational institutions

Stakeholders / Interest: Chamber of Economy, faculties

Action 3. ZEDA will support unformal education of students and unemployed

Target group: students, unemployed, FBI companies

Stakeholders / Interest: Chamber of Economy, faculties

Action 4. Giving information about EU standards

Target group: students, unemployed, FBI companies

Stakeholders / Interest: Chamber of Economy, faculties

10. RESOURCES AND BUDGET

- Human resources - not estimated
- Physical resources - not estimated
- Financial resources - not estimated

11. COMMUNICATION ACTIVITIES

Communication activities for the purpose of presenting the Local Innovation Action Plan will be divided into two groups. One group of activities will be on-line presentations (e.g. Web sites, social networks, newsletters, electronic journals etc. - *On-site communication activities*), and another group of activities that will disseminate information about the LIAP will be organized apart from the Web sites - (workshops, fairs, professional conferences etc. – Off-site communication activities).

On-site communication activities:

Information on the prepared Local Innovation Action Plan (LIAP) within the FORESDA project will be posted on the website of the ZEDA Agency. The information about the LIAP will also be sent to public and private companies and relevant institutions from the database.

Off-site communication activities:

Within the off-site LIAP presentation, the planned activities include workshops, fairs, professional conferences, etc.



12. RISK ANALYSIS

Describe the possible risks and group them according the following types:

DESCRIPTION OF POSSIBLE RISK	PROBABILITY OF OCCURRENCE	IMPACT	REMEDIAL ACTIONS
1. To be unsuccessful in the attraction of SMEs, other target groups and stakeholders	0.4	0.6	To organize an initial presentation of the LIAP among SMEs and other target groups and stakeholders

13. APPENDIX I:

LIAP BiH FEDERATION - TABLE OVERVIEW

LOCAL ACTION PLAN DETAILS		TIMELINE				OBJECTIVES	TARGET GROUPS	ESTIMATED BUDGET (EUR)
ACTION & KEY IMPLEMENTATION STEPS		PP 3 (1-6/18) 01-03	PP 4 (7-12/18) 07-09	PP 5 (1-6/19) 01-03	04-06			
1. Promotion of the sector through the presentation of curricula and study programs of the Mechanical faculty in Zenica						To disseminate and improve the image of FBI sector with the help of the dissemination and presentation of the information about FBI sector, needs, improvement of the technology...	researcher, students, professors,	not relevant
Preparation								not relevant
Dissemination								not relevant
Realization								not relevant
Capitalization								not relevant
2. ZEDA will support the principle of dual education in Mechanical faculty in Zenica						To disseminate and improve of education for the FBI sector, especially the solid wood production,	regional authorities, SMEs, R&D managers, students, professors	not relevant
Preparation								not relevant
Dissemination								not relevant
Realization								not relevant
Capitalization								not relevant
3. ZEDA will support informal education of students and unemployed						Promotion of new trends and technologies necessary for improving production in the field of wood processing	SEMs, cluster, researcher, students	not relevant
Preparation								not relevant
Dissemination								not relevant
Realization								not relevant
Capitalization								not relevant
4. Giving information about EU standards						To disseminate and to present EU standards in the field of wood processing and their importance for the competitiveness of SMEs	All, regional authorities, SMEs, R&D managers, students	not relevant
Preparation								not relevant
Dissemination								not relevant
Realization								not relevant
Capitalization								not relevant