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ASPECTS OF THE FOREST-BASED SECTOR
FOR SUSTAINABLE DEVELOPMENT**



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Sustainability impact assessment of forest-wood supply chain: an experience from Italy

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The 2030 Agenda for Sustainable Development came into force in 2016 as the main United Nations (UN) platform for achieving integrated goals across the three dimensions of sustainable development: the environmental, social, and economic. The 2030 Agenda goes beyond the “simple wish list”, supporting progress towards sustainability through addressing complexity and interactions and defining concrete targets and indicators. Furthermore, the Agenda contains opportunities and calls for a deeper participation for all stakeholders - from governments to civil society - to contribute to sustainability, implementing and delivering the required actions.

Among the tools to support the evaluation of policies taking account of sustainability, Sustainability Impact Assessment (SIA) is a process to identify and assess the impacts of strategies and single operations with a systematic, integrated, and iterative approach.

Considering the forest-based sector, entire forest value chains need to be included in the SIA approach. In the present study, SIA was applied in the context of the Italian forest-based sector, to assess and contribute to increase the sustainability of a forest-wood supply chain at local level.

The process was structured in four phases: (1) review-based identification of a set of indicators suitable to assess the forest-wood chain; (2) involvement of actors of forest-wood chain through a questionnaire survey and evaluation of the performance of indicators considering the tree dimensions of sustainability; (3) development of a GIS-Based (QGIS 3- open source) procedure to identify suitable zones for the forest-wood supply chain implementation. The indicators were pre-selected based on the GIS method and served as input for the optimization modelling; (4) implementation and testing of the GIS-Based procedure in a pilot area in Italy (Unione di Comuni Valdarno e Valdisieve, Tuscany region). At the end of the first phase, a set of 11 indicators was developed considering the three pillars of sustainability. In the second phase, 30 actors of the forest-based sector have been involved in the SIA process, to assess and weight the suitability of indicators in increasing the sustainability of the forest-wood supply chain. In the last phase, spatial data of the forest-wood supply chain have been stored and analyzed, integrating them with indicators supporting the development of strategies oriented to perform sustainable short supply chains. The results of this study provide to the accounting of forest chains' impacts from financial and socio-environmental viewpoint integrating the SIA process with a bottom-up GIS approach.

The SIA process, integrating with a bottom-up GIS approach qualitative and quantitative information, contribute to the accounting of forest chains' impacts from financial and socio-environmental viewpoint.

Key words: public participation, Sustainable Development, integrated assessment tools, indicators, GIS, 2030 Agenda