

Application from the "Tree Diagram" on the Residue Management of the Brazilian Wood Flooring Industries

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Introduction

The wood flooring industries generates a large quantity and diversity of timber residues. Many of them are using the natural resources inefficiently, both in timber extraction and in the mechanical processing and disposal of products at the end of the useful life. This results in an over exploitation of timber resources, especially from native forests, contributing to the impairment of environmental sustainability along the supply chain (TEIXEIRA, 2005).

According to Granghelli et al. (2012), most of these companies in Brazil doesn't have diagnostic of generation, types and classification of residues. Their allocation in the most of cases, is still burning as source of energy. No company has a residues management plan, only isolated actions and there is no monitoring of the results of these actions, which compromises the sustainability in the supply chain and end up generating large quantity of residues.

This further demonstrates the difficulty of the process of analysis and problem solving in organizations. The Tree Diagram is a useful tool for strategic planning and situational problem solving because it is a method based on inter-relationships and the dependence of cause and effect, being possible to understand about which problems should act and thus formulate measures and actions to reduce or eliminate them (RIBEIRO, 2013). One method that can be adopted in the wood flooring industries for a better management of their residues.

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Objectives

Application of the Tree Diagram in the analysis and resolution of problems related to solid residues management in a wood flooring industry.

Methods / Procedures

Using case study in a wood flooring industry in the municipality of Tietê, São Paulo, Brazil, was possible to identify the main problems involving residues management in the company, their causes and effects. Completed the analysis of problems, using as reference the manual of good practices in the management of residues in wood floor industries (NOLASCO ; ULIANA , 2013) were proposed corrective actions, structured in the form of a tree diagram.

Results

The problems related to residues management in the wood flooring industry are mainly related to raw material (Figure 1), the process (Figure 2) and the product (Figure 3). With the identification of these problems, it was possible to develop three diagrams characterizing the causes and consequences of each problem, allowing a complete mapping of the production system.

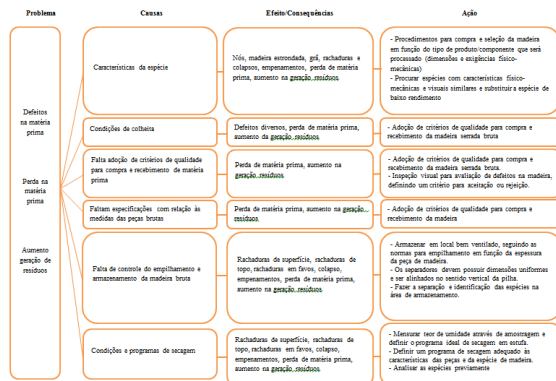


Figure 1 - Diagram tree for solving problems related to the raw material

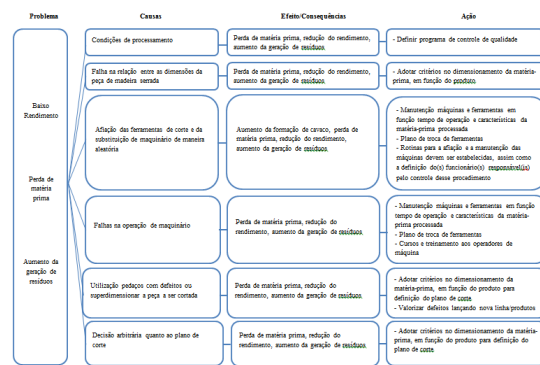


Figure 2 - Tree diagram for solving problems related to the process



Figure 3 - Tree diagram for solving problems related to the product

The construction of the tree diagram allows the visualization of the process as a whole and from this the adoption of actions such as quality control programs, prior of species choice,

training of workmanship, plan for maintenance, sharpening and replacement of machinery, development of new products and valuation wood defects as some of the solutions involving the residues management with a focus on strategies for the minimization and recycling of their residues in order to reduce costs, increase quality, more efficient processes and improved corporate image.

Conclusion

The Tree Diagram applied to solid residues management in the industries of wood floors proved quite practical as a tool for identifying problems, causes and effects, making it possible to outline a plan of action involving the improvement of different processes.

References

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