Architects’ perception of selected bio-based building materials in France and Gabon
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Introduction

As a part of a larger research project that examined bio-based building materials that are underutilized in the construction of non-residential buildings, the presented mail survey was conducted in France and Gabon to determine how architects specify selected bio-based building materials. This study provides a preliminary assessment of the potential segments of architects in practice based on their attitudes to the use of wood in non-residential construction.

France

In Central Africa and particularly in equatorial region, the forest plays a key role in this regulation. In the year 2000, Gabon produced more than 6 million m^3 of timber, of which 72% was Aucoumea klaineana Pierre (AKP). However, in 2004, only 1.6 million m^3 was produced, of which 61% was AKP. This decrease in timber production was due to new regulations of exploitation of trees. In 2009, after the prohibition by the Gabonese government of the exportation of logs, more structures focalized on the study and the exploitation of wood were born. Since then, a particular attention is done on the mechanical characterization of some species which are usually used in timber structures. One of those species is AKP which is an endemic species in Central Africa's forest which is a long time, associated at the life of locals. In the recent past, AKP represents 80% of annual wood's production in this country and 90% of this species is exported all over the world and particularly in Europe and Asia. It is used largely for plywood in building, veneer, finished or semi-finished products and in the design of the paper.

Gabon

In Gabon, the forest is private: 3.3 million owners share it. Forest in numbers in France and Gabon, 2015

Objectives of the study

- To evaluate the perceived experience and regional trends of Engineering Wood Products (EWPs) by architects in Slovenia, Croatia, and Bosnian construction market;
- To identify the use of EWPs in load-bearing and non-load-bearing systems;
- To characterize information sources and their perceived value used by architects;
- To identify EWPs' information needed by architects;
- To evaluate cooperation between architects, wood engineers and civil engineers.

Methods

- Gabon: 10 architects members of Conseil National de l’Ordre Gabonais des Architectes, France: 78 architects from Conseil National de l’Ordre des Architectes de France
- To identify the use of EWPs in load-bearing and non-load-bearing systems;
- To evaluate cooperation between architects, wood engineers and civil engineers.

Results

General perceptions and familiarity of EWPs

- France
- Gabon

<table>
<thead>
<tr>
<th>Use of EWPs in Non-Load and Load-bearing system</th>
<th>France</th>
<th>Gabon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use of EWPs in Non-Load and Load-bearing system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2. How important are they for you? Not important - 1, Important – 3</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>3. Which type of building components do you use EWPs in?</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Discussion

Using the information obtained in this study will contribute to an understanding of the probability that bio-based building materials are chosen in residential and non-residential buildings and to an understanding of the drivers and barriers for implementation. The study was extended to selected European countries and the US, as well as to Central Africa. The study is extended to selected European countries and the US, as well as to Central Africa. The first results show that several architects in Gabon have not given responses due to the difficulty to have computer and excellent web connection. However, the obtained results are very interesting and promising. These results will help the architects to choose efficiently the wood product for civil-engineering constructions.

Acknowledgements

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References


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