

Development and Implementation of Stress Grading Rules for Tropical Timber in the Philippines

Final report

PD 34/99 Rev. 2 (I)

I. Objectives

This project was aimed to develop and implement stress-grading rules for timber used for construction in the Philippines. The project activities included work on relevant standards for tropical hardwoods based on the existing technology infrastructure. The project activities required interaction with regulatory bodies and other sectors for the adoption and implementation of appropriate codes and standards regarding the production, quality assurance, and use of stress-graded tropical hardwoods.

II. Achievements

An international workshop on Lumber Stress Grading took place on 19-21 November 2003 at Astoria Plaza, Pasig City, Philippines. This was the last activity planned under the project. However a meeting of the Project Steering Committee took place on 21 January 2004 and recommended the implementation of additional activities in order to improve the results of the project at no additional budget expenses. These activities included: sustained information campaign of Machine Graded Lumber (MGL); inclusion of the design and construction system for the MGL in the Structural Code of the Philippines and work for the approval of MGL product standards. The response of the various partners was encouraging and Memoranda of Understanding were established with many of them: with Central Lumber Inc. on commercial production of MGL, with the Construction Industry Authority of the Philippines for the sustained information campaign, with the Bureau of Products Standards for the deliberation and approval of the standards, and with the Association of Structural Engineers of the Philippines for the inclusion of MGL design and construction system in the National Structural Code of the Philippines. The project therefore substantially increased its impact for a successful introduction in the Philippines of stress grading rules for tropical timber.

III. Lessons learnt

The main lessons learned from the project are as follows:

- A stress grading system for tropical lumber in the Philippines was developed based on ISO Standards on Structural Timber – Grading Requirements for Machine Graded Timber. Five stress grades were established and are based on the current timber supply in the Philippines hence their coverage can change depending on the future supply scenario's and market preferences.

- Stiffness evaluation can be employed to individual pieces of lumber as a non-destructive testing method in mill production. However, a set of visual inspections overrides the mechanical grading process for defects not accounted for in the bending stiffness test.
- Timber design software, span tables and a builder's manual were developed on the MGL system.
- Pilot produced MGL indicated that its production is profitable for producers and that it can generate savings for MGL consumers.
- The introduction of MGL on the Philippine timber markets requires appropriate marketing strategies as the concept of machine graded lumber is new in the Philippines; including appropriate provision for adequate training and dissemination activities at all levels.

IV. Concluding remarks

The Executing Agency submitted the final report but has not yet submitted the final audited financial statements on the use of project funds in accordance with the Project Agreement signed with ITTO. Therefore, the Committees may wish to report this project as completed, subject to the submission of its audited financial statement.