

## Evaluating domestic timber distribution after the Great East Japan Earthquake: A case from Northeast Japan

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This study evaluates the damaging effect of the Great East Japan Earthquake in Northeast Japan, where the plywood industry is a key driver of domestic timber use, on domestic timber distribution. The study analyzes the changes before, during, and after the earthquake by interviewing major distributors and managers of forest owners' co-operatives and by examining statistical data.

Before the earthquake, domestic timber distribution was restructured because the plywood industry changed its product materials from foreign to domestic timber in the early 2000s. The industry maintained timber production and its groups by contracting national forest management and forming a group to supply domestic timber to plywood factories. Additionally, the volume of domestic timber supply to plywood factories increased because a woodlot, which is less prevalent in Northeast Japan, produces timber for lumber (class A) and timber for plywood (class B).

After the earthquake in Iwate Prefecture, two plywood factories were bankrupted by the tsunami disaster, and one plywood factory and some wood chip biomass power plants were established inland. Therefore, domestic timber distribution has changed in terms of increased volume of supply and the restructuring of supply management groups.

Akita Prefecture, where no physical damage was caused by the earthquake, has experienced expansion of class B timber production because of high spec machine installation. A large-scale lumber factory, which uses class A timber, contributes to class B timber production. Therefore, domestic timber supply in Akita Prefecture has increased since the earthquake.

Domestic timber distribution was suspended after the earthquake in Miyagi Prefecture because plywood, fiberboard, and paper mill factories were damaged by the tsunami and were temporarily refused domestic timber supply. However, the volume of plywood products increased because of high demand from earthquake recovery reconstruction and the last-minute demand before the consumption tax hike. Therefore, timber companies could resume production with increasing volumes of domestic timber mainly supplied from Iwate Prefecture where some timber was lost in shipment factories. Overall, domestic timber distribution is more stable currently than domestic timber distribution before the earthquake.

The domestic timber distribution system in Northeast Japan has experienced various changes during the earthquake recovery. Some changes were directly triggered by the earthquake damage but most were caused by the increased demand for domestic timber from the plywood and the lumber industry. By restructuring domestic timber supply groups, and because of the rapid recovery of timber production, domestic timber distribution has remained stable before and after the earthquake. Therefore, this system is currently resilient. This case provides lessons to stakeholders in the establishment of stable domestic timber supply systems.

**Keywords:** the Great East Japan Earthquake, domestic timber distribution, plywood