Philippine Institute
for Development Studies
*Surian sa mga Pag-aaral
Pangkaunlaran ng Pilipinas*

Policy Notes

ISSN 2508-0865 (electronic) No. 2017-08 (April 2017)

Reviving the wood processing industry of the Philippines

Danilo C. Israel

As an important downstream activity of the forestry sector, wood processing[1] adds economic value to log, diversifies the products that can be produced from it, and increases the incomes and employment of involved communities. Despite these economic contributions, however, its practice has been in a decline in recent years. One perceived reason is the imposition of Executive Order (EO) 23, which declared a moratorium on the cutting and harvesting of timber in the natural and residual forests of the country. In the Caraga region (Region 13) alone, the number of processing firms had dwindled from 119 in 2010 to only 27 firms in 2015 (Paqueo and Silfverberg 2016).

This *Policy Note* summarizes the results and findings of a recent study (Israel and Bunao 2017) on the wood processing industry. Specifically, it describes the wood processing value chain, identifies major issues in the chain, and provides policy recommendations and actions to address them. It presents primary information sourced through key informant interviews with government informants and focus group discussions (FGDs) with the private sector. This study hopes to contribute to the sparse literature on the wood processing industry.

Philippine wood processing industry value chain

The value chain of the Philippine wood processing industry involves different firms at different stages, the kinds and sources of their inputs, and the kinds and destinations of their outputs and products (Figure 1). At its onset are two basic raw material inputs—the logs, presented on the left-hand side of the value chain, and the tops and branches from harvested trees, presented on the right-hand side.

[1] The Philippine statistics has no government definition of wood processing. A wood processing plant is described as a mechanical device, machine, combination of machines, or setup used for the treatment of poles and piles or conversion of logs, and other wood raw materials into lumber, veneer, plywood, wallboard, blockboard, paperboard, pulp, paper, or other finished wood products (FMB 2014).

The logs are either imported by firms from abroad and/or sourced from domestic logging firms and/or individual tree growers. After harvest, those produced in the Philippines are first graded by its sources into two categories depending mainly on its quality (Figure 1). The sawlogs and veneer logs, considered high grade, are either exported or sent to the primary wood processing plants. On the other hand, low-grade logs can be further categorized as poles and piles used in local fish pens and electrification posts, those not processed by primary wood processing firms due to poor quality but are useful to secondary wood processing firms in the production of some wood articles, and finally those graded as pulpwood which are utilized in pulp and paper mills.

Meanwhile, the tops and branches of trees are by-products of local logging operations which local pulp and paper mills and power plants purchase for their own use. They find their way into the pulp and paper mills and power plants as inputs in the production processes of these plants. Pulp and paper mills produce paper and paperboard products which are sold internationally and locally, while power plants produce electricity for domestic consumption.

Primary processing

The primary wood processing plants (PWPPs) in the Philippines, where sawlogs and veneer logs are sent, are composed of wood-based board and panel plants, sawmills, and mini-sawmills. Wood-based board and panel plants include veneer plants, plywood plants, blockboard plants, fiberboard plants, and similar plants. These wood-based board and panel plants produce veneer, plywood, fiberboard, particleboard, blockboard, and other engineered woods which are sold domestically or abroad or sent to the secondary wood processing plants (SWPPs). Meanwhile, sawmills and mini-sawmills produce lumber which are either marketed domestically or internationally.

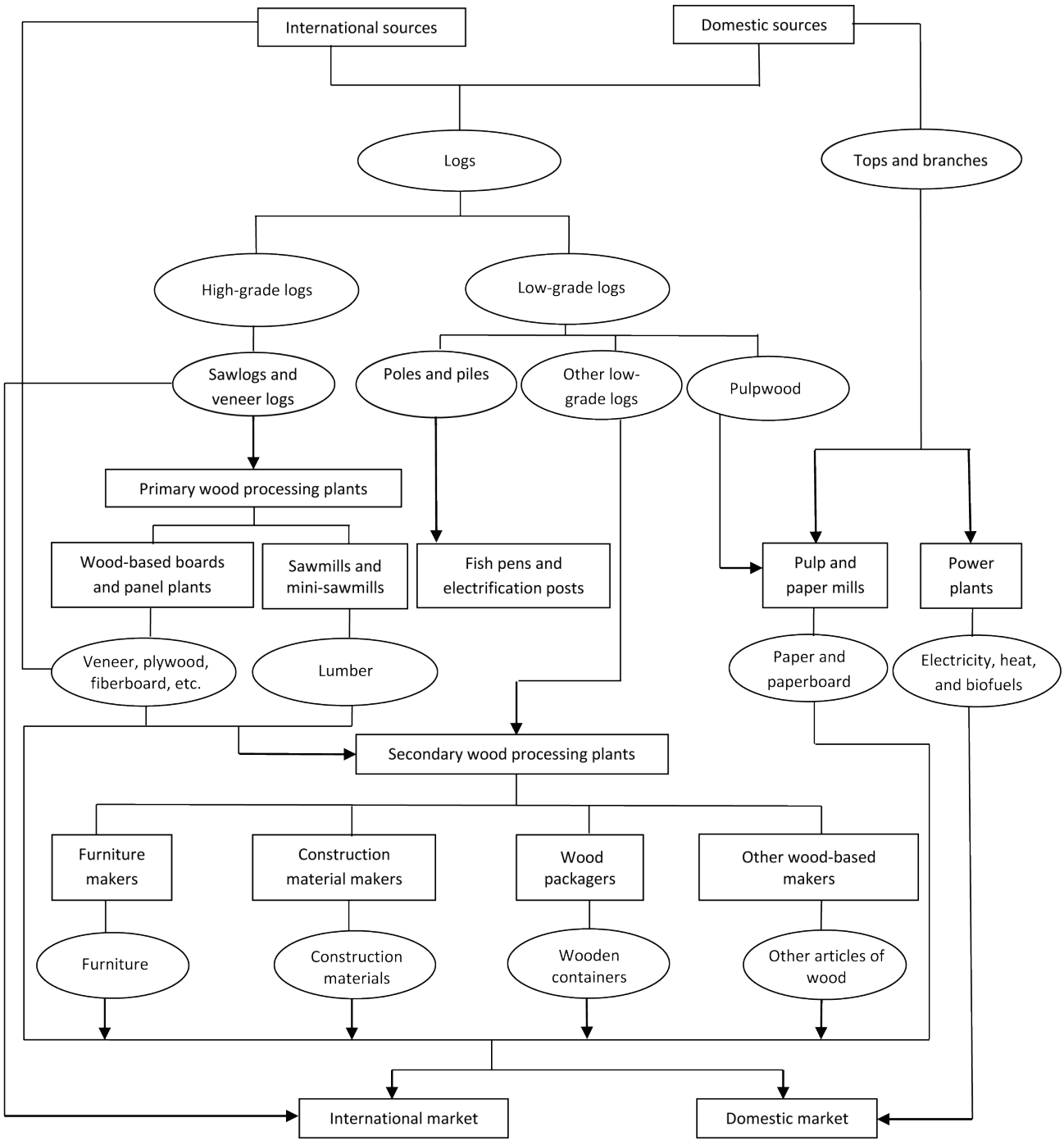
Secondary processing

If not sold, the products of PWPPs are sent to SWPPs. These plants consist of furniture makers, construction builders, wood packagers, among others. They generate their supply of lumber, veneer, plywood, and other wood-based inputs from the PWPPS and/or international sources.

SWPPs produce various wood-based manufactured articles and wood-based furniture. The furniture makers produce chairs, tables, beds, cabinets, drawers, and other wood-based items. Meanwhile, the makers of construction materials produce beams, doors, railings, mouldings, frames, flooring, among other items. The wood packagers produce wooden containers such as crates, pallets, wooden boxes, and wood cable-drums. Other wood-based makers produce various wood articles used in handicrafts, arts, musical instruments, toys, home decorations, kitchenware, and other similar items. The outputs from these secondary wood processing industries are then sold in the domestic and/or international markets.

In the international market, the main buyers of the products of these firms include Australia, France, Japan, United Arab Emirates (UAE), and United States of America (USA). Most of the wood-based manufactured articles are sent to France, Japan, and USA while most forest-based furniture are sold to Japan, UAE, and USA. Additionally, paper and paperboard products are sold to Australia, Japan, and USA. In the

Figure 1. Wood processing industry value chain in the Philippines



Source: Israel and Bunao (2017)

domestic market, the products of secondary wood processing firms are sold all over the country but mainly in Luzon where many traders are based.

Issues in the wood processing industry

Unfortunately, the country's wood processing industry value chain is saddled with numerous issues constraining its development. The issues identified through FGDs with private firms and summarized below are for the wood processing industry in general and not specific to any of the individual activities unless specifically mentioned:

Technical

The wood processing firms use production equipment and technology that are generally outdated. Even if they can avail of new technologies, firms still have to train employees to meet skills requirements.

Financial

Collateral is a major hindrance in accessing loans particularly for micro, small, and medium enterprises (MSMEs). This is exacerbated by the long and tedious loan application process in banks and other formal financial institutions.

Economic

- The supply of logs, both local and imported, is inconsistent and/or inadequate. With this, some firms cannot operate at full capacity. With unreliable supply of logs, average costs are higher and processing firms cannot benefit from economies of scale in their operations.
- While currently seen as stable at present, the prices of logs in the Philippines could go up should China, as one of the biggest log importers, decide to purchase huge amount of logs from the international market in the future.
- The costs of inputs could rise dramatically given the increase in the price of gasoline and associated products.
- Labor cost could be an area of concern in the future due to the proposal to abolish contractualization in the country. The said abolition may result to fixed labor costs which firms have to shoulder despite failure to operate at full capacity.
- The participation of firms in the international markets has made them significantly affected by the exchange rate, which is beyond the control of any single sector, much less the wood processing industry. Now that the dollar is getting stronger than the peso, the prices of imported log and other materials are increasing, too.

Marketing

- Some firms have reduced or stopped exporting due to their failure to compete with the lower-priced products of other Southeast Asian countries.
- MSMEs lack the capability to develop new markets, specifically due to limited market intelligence, useful in improving their marketing strategies against foreign competitors.
- The country's importation of cheaper yet substandard products, particularly plywood, from China creates an unfair competition to local manufacturers.

Environmental

Due to outdated technology, the low recovery rates of firms generate a large volume of wastes. In some cases, firms use boilers to dispose wastes—a technique which may result in the emission of carbon monoxide, nitrogen oxide, and other dangerous gases (IFC 2007).

Institutional

- The implementation of EO 23 affected not only the supply of wood products to the wood processing industry but also increased unemployment in the rural areas. It also encourages the practice of illegal logging.
- The unstable and inconsistent policies related to the wood processing industry have worsened the situation. For instance, frequent policy changes related to the harvesting of logs have discouraged investments in wood processing.
- The Philippine government has neglected the industry partly because of the strengthened environmental lobby favoring the log ban. Yet, at no other time in its existence that the industry is in dire need of attention and assistance.

Research-related

Data and information useful to the growth and development of the industry have been limited. Researches relevant to the industry have been few due partly to this.

Recommendations

Technical

- Firms using outdated technologies should be encouraged to retool. MSMEs can tap the Department of Science and Technology-Small Enterprise Technology Upgrading Program for their technological improvement.
- The industry needs a skills and technology road map, which can establish collaborative arrangements between industry members to develop new technologies and promote highly skilled human resource.

Financial

MSMEs can open up to foreign investors and explore various government incentive programs to modernize. Meanwhile, financial institutions should streamline and simplify loan application processes.

Economic

- The government should actively support nongovernment and private reforestation efforts. The issues and problems facing private forestation and recommendations to address them are discussed in Israel (2016).
- The wide use of contract farming of trees should be considered. Under contract farming, firms can help farmers secure pasture leases for vacant government lands they can convert into tree plantations.
- An aggressive research and development (R&D) program for nonwood raw material inputs like rattan, bamboo, and nipa should be conducted. However, the development of these materials should consider their potential effects on the natural environment (Bowyer et al. 2014).
- Firms must develop innovative means to reduce gasoline consumption and make their operations more energy efficient. Labor power should likewise be encouraged.
- A thorough benefit-cost analysis on the effects of contractualization on the economy and individual sectors should be done coupled with extensive consultations among all stakeholders.
- Whenever possible, firms should consider stocking imported wood and other materials when the exchange rate is favorable to them.

Marketing

- Firms should promote product quality and work for certification, such as the Forest Stewardship Council–Chain of Custody certification that labels products as supportive of responsible forest management.
- The government and firm associations should aggressively assist firms in marketing. The

government can help MSME representatives attend relevant fora and symposiums through financial sponsorship and other means.

- The Customs administration should strictly implement the Philippine Standard of Imported Wood Products to prevent the entry of substandard wood in the country.

Environmental

The government should strictly monitor the industry's waste management processes. As part of R&D efforts, the utilization of waste as an input in the production of new products should be studied.

Institutional

- The government should review EO 23 to make it more equitable to stakeholders. It can also help provide employment options as well as safety nets to assist wood processing workers displaced by the log ban.
- The government should implement stable policies to secure doing business in the wood processing sector.
- The government and the private sector should consider expanding the coverage of the manufacturing road maps to include other wood processing industries that have strong potential.

Research-related

- The government should gather more detailed data and information on the wood processing sector and its subsectors. Likewise, research on wood processing should trickle down to specific subsector activities.

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For further information, please contact

The Research Information Staff
Philippine Institute for Development Studies
18th Floor, Three Cyberpod Centris – North Tower
EDSA corner Quezon Avenue, Quezon City
Telephone Nos: (63-2) 372-1291 to 92
E-mail: danilocanoisrael@gmail.com; publications@mail.pids.gov.ph

The *Policy Notes* series is available online at http://www.pids.gov.ph. Entered as third class mail at the Quezon City Central Post Office under Business Mail Permit No. 3C-15-12-494. Valid until December 31, 2017.