



UNIVERSITI PUTRA MALAYSIA

**MANPOWER TRAINING NEEDS ANALYSIS OF
THE BAMBOO FURNITURE INDUSTRY IN
LUZON ISLAND, PHILIPPINES**

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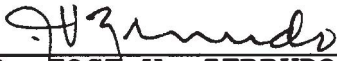
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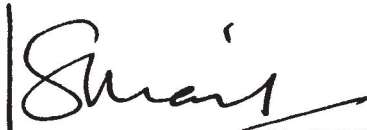
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ABSTRACT

A survey was conducted on the manpower training needs of the bamboo furniture industry in the selected provinces of Luzon Island, Philippines. The general objective was to generate data on industrial manpower as a basis for designing and conducting appropriate training courses aimed at improving manpower competencies in bamboo furniture industries.

All the bamboo furniture producers and exporters belong to cottage-type industries with capitalization of P500 to P200,000. Majority of them (55.4%) have invested up to P10,000 in furniture industry compared with those whose capital ranges P10,000 to P50,000 (34.4%) and over P50,000 (10.2%). Family ownership is the most common among the respondents, followed by single proprietorship and the least by a corporation. The respondents are involved in mass production and made-to-order items, the most saleable of which being the sala set.

"Management Planning and Control" is perceived as the most relevant competency category in relation to job performance and all the rest are not relevant. For future training, "Management Planning and Control" and "Technological Innovations" are rated most relevant while the other three categories are not relevant.

Despite the profits derived from bamboo furniture industry, the furniture makers are confronted with many problems. The producers are characterized by lack of entrepreneurial management skills, inadequate knowledge of bamboo drying, lack of storage facilities and poorly-maintained equipment/tools, inadequate knowledge of product design development and finishes/finishing techniques, and lack of quality control. The exporters are faced with lack of institutional support, financial management problems and inadequate knowledge of markets/marketing strategies. In order to minimize these problems, intensive information campaign on available technological innovations should be conducted by the technology-generating institutions. Likewise, financing/lending institutions should devise simple borrowing schemes more adapted to the limited business capability of the small furniture manufacturers.



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**MANPOWER TRAINING NEEDS ANALYSIS OF
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CHAPTER I

INTRODUCTION

1.1 General Background

Bamboo furniture making in the Philippines is several centuries old, dating back to the Spanish conquest. Simple forms of chairs, beds, cupboards and tables were usually made by the householder himself.

Bamboo furniture as an organized industry, however, is only a few decades old. At present, traditional and old-fashioned designs are being marketed into the United States, Australia and Europe. In rural areas, it is still a common view to see bamboo benches and stools in front of native stores. However, since these are crudely designed and roughly finished, the serviceability and potential of bamboo for furniture making has, until recently, remained unappreciated.

Due to the dwindling supply of the preferred wood species for furniture, efforts are focussed on the utilization of non-wood-based forest products like bamboo, rattan, buri (Corypha elata Roxb) and other promising palm species. Lately, however, furniture makers have commercialized the use of bamboo because of the need to



increase and sustain incomes at the height of the economic crisis (Garcia, 1986). Displays of bamboo furniture are a familiar sight along provincial and national highways. Big department stores now also carry bamboo furniture as one of many product lines. During the period 1974-1988, bamboo furniture had become an important dollar earner for the country (Table 1) as it slowly edged its way into the export market. In 1974, bamboo furniture exports amounted to only US \$5,000, but by 1981 it had gone up to US \$961,000 and reached peaked sales of US \$1,131,000 in 1988. The share of bamboo furniture to total furniture exports has shown a generally increasing trend, but on the average, this is still quite negligible amounting only 0.63%.

Based on this good local and export market potential, people were encouraged to go into bamboo furniture making. Many furniture firms have also expanded from rattan and/or wood into bamboo furniture. Other factors such as availability of raw materials, low capital investment and low levels of skilled workers required have contributed to the development of the industry. Bamboo is fast-growing and ready-to-use in three years after sprouting. It is also cheaper than other raw materials like wood, rattan or metal.



Table 1. Bamboo furniture exports, 1974-1988 (FOB Value in US Dollars)

| Year | Bamboo Furniture Exports | Total Furniture Exports | Percentage to Total |
|-------------------|--------------------------|-------------------------|---------------------|
| 1974 ^a | 5,009 | 4,575,416 | 0.11 |
| 1975 ^a | 6,563 | 4,509,078 | 0.14 |
| 1976 ^a | 21,386 | 8,928,861 | 0.24 |
| 1977 ^a | 49,861 | 20,042,796 | 0.25 |
| 1978 ^a | 126,138 | 25,167,307 | 0.50 |
| 1979 ^a | 195,155 | 44,812,991 | 0.43 |
| 1980 ^a | 318,918 | 67,778,193 | 0.47 |
| 1981 ^a | 961,271 | 77,344,273 | 1.24 |
| 1982 ^a | 610,081 | 61,270,198 | 0.99 |
| 1983 ^b | 743,256 | 78,988,127 | 0.94 |
| 1984 ^b | 676,844 | 83,464,729 | 0.81 |
| 1985 ^c | 625,535 | 79,743,235 | 0.78 |
| 1986 ^c | 858,923 | 85,575,281 | 1.00 |
| 1987 ^c | 741,505 | 102,160,143 | 0.72 |
| 1988 ^c | 1,131,293 | 144,240,413 | 0.78 |
| | Average | | 0.63 |

a = National Census Statistics Office (NCSO) Monthly Bulletin, Nov. 1983.

b = NCSO Philippine Yearbook, 1983 & 1984. Export Trade Division, Manila.

c = Foreign Trade Statistics, Philippines. 1985-1988.



This rapidly-growing industry should not be taken for granted since now is the right time for the government sector to take advantage in improving and nurturing its growth. To do so, more must be known in bamboo furniture making on the processing aspects and on the manpower training needs of the industry. This is necessary to improve production and quality of the finished products.

1.2 Rationale

Finished products of the bamboo furniture industry and related furniture firms should represent the highest degree of refinement. The external appearance of a furniture piece is a key factor in measuring the preferences of prospective customers. It is deplorable to note that this special characteristic of the furniture product has not been adequately achieved with the traditional production techniques of most furniture firms.

One of the most important factors that hampers the progress of the majority of furniture makers is the fact that technical information and technology transfer services often reach only the more accessible and progressive companies (Robillos et. al., 1986a). These information and services are seldom disseminated to the smaller furniture firms. So while a few, bigger and progressive firms continue to advance the majority are left behind with their traditional, if not antiquated,

techniques and processes. The gap is so wide that about 90 percent of the 4,000 to 5,000 furniture producers belong to the backyard type (Amio, 1979) characterized by inadequate capitalization, limited facilities, and poor managerial and technical know-how. It is towards narrowing this gap that identification of the manpower training needs in furniture industry is necessary.

It is absolutely necessary to identify the needs and problems of the furniture makers in order to have sound basis for the development of appropriate technologies that will contribute to increased productivity rate and enhancement of product quality of the industry. The furniture manufacturers will be receptive to innovations only if they sense that the technological changes will meet their specific needs and solve problems relevant to their specific situations (Robillos, 1986b). This is the ultimate reason why conducting interviews with the furniture makers during their idle time is a worthwhile activity not only for gathering benchmark information but also for forging a client-agency relationship which is very important in solving each other's problems in future.

1.3 Objectives

The general objective of the study is to generate data on industrial manpower as a basis for designing and conducting appropriate training courses aimed at improving manpower competencies in bamboo furniture industries.

Specifically, the study aims to: (i) identify gaps in knowledge/skills among the manpower complement of bamboo furniture industries; and (ii) identify relevant areas for manpower training in bamboo furniture industries vis-a-vis available developed/improved technologies.



CHAPTER II

REVIEW OF LITERATURE

Bamboo as an excellent raw material for furniture apparently generated renewed interest with the sprouting of bamboo furniture manufacturers in some provinces in the island of Luzon, Philippines. The new product line includes sala and dining sets, beds and double decks, display racks, cabinets, dividers, window shades, bookshelves, and lounging chairs. This is a far cry from furniture items traditionally made from bamboo such as benches or "bangko" and light beds or "papag." The transformation of what once used to be regarded as poor man's lumber into attractive or even expensive furniture showcases the versatility of bamboo.

However, the utilization of bamboo should be tempered with appropriate technical know-how to preserve its high commercial value and to sustain bamboo furniture industry in the country. Various surveys are conducted among bamboo furniture makers in order to gather benchmark information regarding their manufacturing processes and techniques. Based on this information, specific aspects for technical assistance (i.e. training) in bamboo utilization can be determined to help and promote the industry.



2.1 Recent Surveys of Furniture Manufacturers

Various surveys and studies were made by the Forest Products Research and Development Institute (FPRDI) of the Philippines regarding the existing furniture industry sectors, both government and private. The bamboo furniture manufacturers and exporters were surveyed to get the full insights of their traditional practices and of whatever innovations/technologies had been adopted by them, as well as the problems encountered in production and marketing.

A survey was conducted by Robillos et. al. (1986a) in selected provinces in Luzon to gather first-hand information on existing processing technologies in the manufacture of furniture from bamboo, rattan and other palms. The survey also looked into the needs and problems of manufacturers for formulating relevant research studies and means for disseminating such technologies.

Moredo et. al (1986) made a situational analysis of the bamboo furniture makers in Laguna province through survey and interviews with the proprietors or owners of the firms. Based on this finding, the bamboo furniture manufacturers have not availed of any technical assistance on the utilization of bamboo. About 40% of the manufacturers articulated some aspects of technical assistance usually on drying of bamboo, prevention and

control of stains, bleaching culms and staining techniques, and proper finishing techniques. Only two manufacturers have received financial assistance: one from National Cottage Industries Development Authority (NACIDA) and the other from a private firm. In terms of cost and return analysis in bamboo furniture industry, Garcia (1986) conducted an economic analysis of the furniture firms through direct interviews with the respective owners. She gathered data related to identifying the marketing and production practices and costs involved in bamboo furniture making, determining the profitability of the industry, identifying the problems and means of solving them, and determining the future export trend of the bamboo furniture. The survey showed that hired labor is the major cost component of bamboo furniture production, followed by raw materials. Net income from the sale of sala sets, beds and dining sets only averages P617.00 per month which takes into account depreciation and cost of family labor.

Another study was conducted by Robillos (1986b) among bamboo furniture manufacturers to find out their demographic and socio-cultural characteristics, determine how these are related to their level of innovativeness, and develop a technology transfer strategy based on the findings. The bamboo furniture manufacturer's level of innovativeness did not vary with age, educational attainment, family size, religious affiliation, business



life, manpower size, and income. However, it showed a direct significant relationship with capitalization. This relationship was supported by access to information and level of satisfaction with bamboo furniture production as a source of livelihood, the former contributing more to the correlation.

The regional office of the Department of Trade and Industry, Philippines (1989) conducted a pre-investment study on bamboo furniture in La Union province to utilize the abundant supply of bamboo in the area. A recent survey of the bamboo furniture producers disclosed that most of them are cottage-scale producers with capitalization of less than P20,000 and less than 10 workers. With this study, these small-scale producers would have a continuous ready market for their products without having to bother with export marketing efforts and expenses which they cannot afford during the initial stage of operation. This study is still on-going.

Similarly, the Department of Environment and Natural Resources (1990) conducted a socio-economic survey regarding bamboo/rattan industry development project in Northern Luzon. The data include demographic profile (personal data), supply and demand of bamboo/rattan, industry profile, skills and training, institutional development, credit and financial assistance, and marketing assistance. This study is still on-going.



2.2 Relevance of Manpower Training to Industry

Assessment of manpower training needs is important in order to identify the learning needs of certain industrial organization. This requires continuous inquiry in dealing with a constantly changing situation and effects and planning needs of the program. It must be systematic to assure that it is not bounded by the casual observation or biases of the training analyst. And to be sure that a systematic approach is practiced, systematic inquiry must become a detectable and an integral part of development efforts (Keregero, 1983).

However, it should be noted that studies on training needs do not focus particularly to the employees or workers alone. Instead these may be conducted for supervisors, proprietors and managers of the firms to improve their capabilities. Research work pertaining to training needs from various viewpoints had been conducted by many interested researchers, professionals and educators both in the United States and developing countries (Corty, 1970; Clark, 1960; Flint, 1961; Phanom, 1961; Santos, 1961; Scobitsky, 1971; Verma, 1971).

In forest products, Supriana (1989) viewed training as a means to: (i) acquire knowledge and develop technologies for quality improvement; (ii) improve the efficiency, productivity and competitiveness of the



forest-based industries; (iii) improve technical manpower capabilities and upgrade skills of workers; and (iv) provide technical assistances/consultation services and serve as the research and development arm of the government on forest products utilization.

The importance of having skilled manpower at all levels to assure the success of an industrial enterprise is often not realized. Furthermore, although the serial production of furniture is a scaled-down copy of producing vehicles, the size of operations are invariably far smaller and the competence of managers far lower (Bassili, 1989). Furniture industries in developing countries tend to be family-owned with the corresponding proviso of employing only family members in decision-making posts. Because production processes are relatively simple and investment costs are relatively small, there is fear that if an outsider was to be given access to the company's secrets, he would soon use them to become a competitor. This attitude is often exacerbated by the fact that the founder-owner started as a craftsman, made money, expanded but still thinks as a craftsman.

Success or failure in furniture making relies heavily on product quality and/or efficiency in production. It is not sufficient for the industry merely to move resources around in response to consumer demand. The productivity of these resources must be kept as high as possible by the



introduction of new, more efficient methods of production. Adams (1971) suggested that an important criterion of the performance of any industry is the rapidity with which it improves its technology. However, technological improvements have to emanate from people's attitudes toward innovations. The most important element in change is a change in attitudes in people. New projects can be abandoned as fast as they are developed if the people do not accept them (Arensberg, 1964).

In enhancing the capability of forest-based manpower, the FPRDI had conducted various technical training seminars and workshops to assist both small- scale and large- scale furniture producers throughout the entire Philippines. All of these training efforts were regularly funded by the government to help promote the furniture industry of the country.

Moredo et. al (1983) conducted a technical training seminar/workshop for the furniture manufacturers in Bicol Region, Philippines. This seminar aimed to impart techniques and demonstrate ways of increasing plant level productivity and improving product quality through the adoption of improved production technologies in the fields of seasoning, furniture structure and construction methods, abrasives and finishing techniques. The training seminar attained its objectives as shown by the eagerness of the participants, their inquisitive attitude and



relevant questions propounded during lectures and open forums. The improved processing techniques gained, when put to practice, should eventually lead to increased productivity, improvement of product quality and long-term economy in the use of resources.

The cottage and small-scale forest-based industries (i.e. wood, rattan and bamboo) which are widely dispersed throughout the Philippines, constitute a big portion of economic livelihood in the countryside. In promoting the welfare of these industries, the FPRDI is continuously pursuing concrete steps to help put the industries in the proper operational perspective (Moredo et. al, 1983). Studies made by the Institute revealed that small industrial firms are confronted with organizational, managerial, technological problems and economic/marketing deficiencies.

Tamayo et. al (1986) served as trainers in the technical training seminar/workshop for cottage-level furniture producers held in Northern Luzon to disseminate relevant information and useful technologies in the fields of drying, furniture structure and construction methods, and wood/bamboo treatment. The said training seminar was able to convince the attentive and interested participants in adopting the technologies generated by the FPRDI.

In coordination with the Philippine National Council on Integrated Area Development and the Department of Trade



and Industry, FPRDI researchers provided the technical expertise on various aspects of bamboocraft processing in Southern Luzon. Roxas et. al (1987) gave lectures dealing with material preparation, chemical treatment against staining fungi and beetles, and finishes/finishing techniques for community-based bamboocraft producers who could not afford the training due to financial constraints. This upgrading program attained its objectives in disseminating information and technology to the bamboocraft producers. Most of them had already some background on this subject prompting them of full cooperation, attendance and initiative during the seminar sessions.

Furthermore, under the auspices of National Manpower and Youth Council and the Department of Science and Technology, Roxas et. al (1989) conducted technical training seminar/workshop on bamboo technology in Iloilo City, Philippines. Useful topics include: (i) basic information on bamboo, (ii) tools and equipment, (iii) chemical treatment against stains and beetles, (iv) seasoning, (v) furniture processing and construction, and (vi) surface preparation and finishing techniques. In this case, the recipients of this training were the community-based and out-of-school youths engaged in bamboocraft. The very receptive participants in Iloilo City contributed to the successful undertaking of this

