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THE FURNITURE INDUSTRY OF MEXICO ^{1/}

by

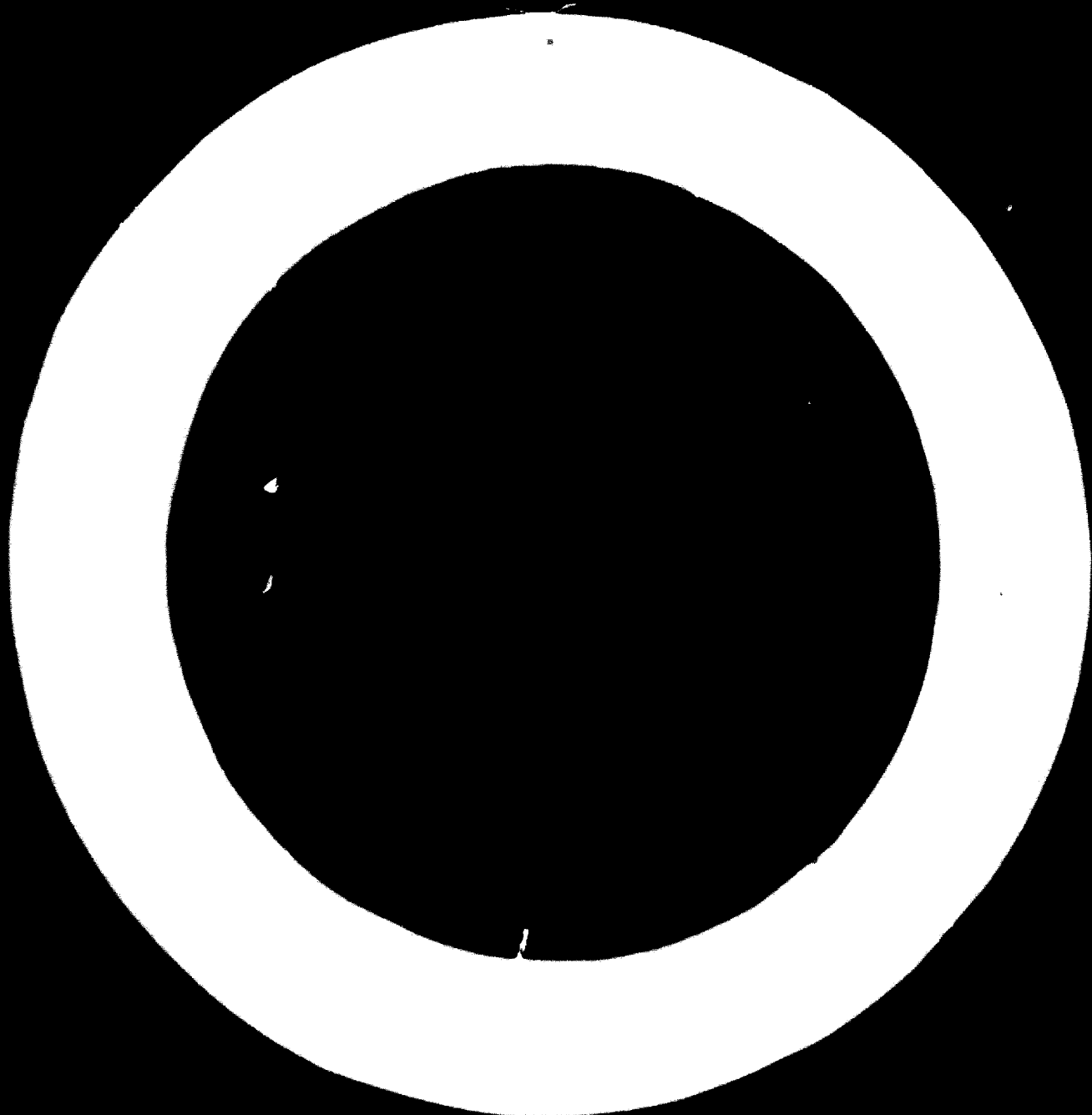
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INTRODUCTION

Taking as a base the work presented by Engineer Tomas Gotes Martínez in last year's seminar,^{1/} in which he makes reference to the "National Forestry Development Plan", and in which he explains the planned development of the wood industry in Mexico, we will better approach it through a summary of the actual situation.

Unfortunately, the forestry development plan to which Mr. Tomas Gotes refers won't be finished this year, but it will be finished next year, and for this reason, in general terms, the production of furniture in the country is still concentrated in three centres: Mexico City, Monterrey and Guadalajara, but mainly in the Federal District (Mexico City). Nevertheless, the woods are far away from these centres, in such a way that the wood is carried away to these three cities to transform it and afterwards it is transported once more to the provinces, but now as furniture. The solution for avoiding freight charges and time losses would be in the decentralisation of the industries and in their integration with the primary industries (sawmills) so they can begin by producing parts of furniture and later on producing entire furniture. This has been begun as a part of the forestry development plan and there are industries like "Protimbos" in the State of Mexico that already have the premises and hope to begin to produce furniture in the middle of next year. These industries are beginning to become integrated and are going to need technicians for the different processes in the manufacturing of furniture.

1. Primary Industry (Sawmills)

Without any doubt, the wood sector is a very important point for regional development and through this, the industrial decentralization.

The Federal Government has spent several years making an evaluation of the forest resources. This study will be completed in two years. The data now shows that Mexico's forests extend for about 40 million hectares and that the majority are coniferous woods, basically pine, with a capacity of annual felling that attains 22 millions m^3 . This capacity, handled with the right forest technology, should rise by 50% over a period of between 10 and 15 years.

With the need for generating new jobs through the use of forests, a conclusion contrary to the premises arises which reflects the fact that during the last two decades the forest production has had an annual increment of only 1.1%. The former has occasioned an increase in the import of forest products, an increase in the costs of the wood and in the finished products (furniture), in the incapacity of being able to take advantage of the advantages of export potential, in the destruction of the forest resources and led to a replacement of wood by other products.

In 1970, in the line of sawmills, the 600 sawing installations were able to produce 1.7 million m^3 valued at Dlls.67,680,000; the imports were of Dlls.14,400,000; and the exports were of Dlls.6,080,000. In the production of thin boards, 25 factories produced 180,000 m^3 with a value of Dlls.38,000,000, an import of Dlls.1,840,000 and an export of Dlls.280,000. In relation with cellulose, wrapping paper, newsprint and other paper products, the 62 factories (of these, 6 consume basically wood or products that are wood derivatives) had a production valued at Dlls.409,680,000 and an export of Dlls.3,560,000.

Studying the previous amounts, we notice the great possibilities of an internal market, and of the urgent necessity to avoid the large currency flight caused by the import of these products, and at the same time, we can take advantage of the possibility of opening external markets.

Preliminary estimates indicate that the need for wood will be doubled by 1980 (1969 was taken as a base for the studies) and it is possible to satisfy the internal needs with the available forest resources up to 1985. Afterwards, the needs of additional consumption would be based on new plantationsⁿ or imports. Nevertheless, if the rhythm of felling continues without discrimination, if the felling is made without taking into account the final use of the wood, if the costs continue to rise - in other words if the development of the forest resources are planned without care, each time we will have to depend more and more on imports to the detriment of the country's economy.

The national programme of forest development is the initial base that the present regime is promoting for channeling the growth of the forest industry in Mexico. Nevertheless, the programme in itself is not the solution to the problems.

We need to know what is possible to produce technically, economically and socially, what are and will be the needs of the consumers, what should we produce, what lines of production do we have to increase, in what fields should we specialise, where should we produce, how we can increase the external commerce, how much financing is needed, which are the investments that have to be done, which are the most important projects of industrial and forestry development, which is the participation of the different sectors that are involved, and what should be the structure of the wood industry?

To be able to achieve the required results with the forest development programme, it is necessary that the industries involved have a good organization, capacity and permanence, so they can manufacture products with quality, good designs and contending prices; otherwise there exists the danger of relying on industries that will live under the protection of high prices with the resulting injustices for the consumer, or it would mean extra burdens to the State, or that they disappear and fail, affecting the worker and his family.

1.1. Treatment of the Wood

Normally, with only a few exceptions, the wood is not treated and drying is done in the open air. The only places where the wood is dried are Durango, Chihuahua and Michoacán, probably because the wood is for export, or maybe there exists the need to lower the costs of freight charges per load.

2. Secondary Industry (Furniture Manufacture)

2.1. Analysis of the Industry

According to the data compiled by the National Chamber of the Transformation Industry, the furniture industry of the country presents the following characteristics:

Total investment	Uls.	48,037,760
Production	"	64,049,680
Industries		2,444
Workshops		5,000
Workers		30,076
Salaries and loans	"	32,000,000

The natural resource mainly transformed is the forest one, which nowadays is used very sparingly, only reaching a bare 10% of its possibilities.

Due to its potential and the number of personnel that is employed, it is possible to think that the furniture industry must become, together with all the other transformation industries of the forest resource, one of the basic industries of the country's economy.

2.2. General View of the Industry

2.2.1. Antecedents

We should mention that the data we are going to supply is the result of an inquest that was done during the period of 1969-71, through sporadic visits to representative enterprises of the industry and to the different categories in relation with the number of workers, kind of production, general systems, etc.

The following facts were determined, and they only present the problems to be considered with training views in relation with the following sub-heads:

2.2.2. Organization

The organization in a great number of enterprises is not adequate, because of the management's training in most cases has been obtained only through experience. Some of the symptoms that reveal the bad organization of the industry are:

High inventories

Extra investments in machinery (in certain cases it is the opposite)

Bad plant layouts

Complicated processes

2.2.3. Work Force

2.2.3.1. Workmanship

Labour is abundant, but with very deficient training. The preparation of the labour force is mainly done by the beginners observing the master, and this way the training is slow and they acquire whatever bad working habits the master may have.

2.2.3.2. Supervision

The selection of a supervisor is done in many cases by selecting the worker that has rendered the best results; this way there doesn't exist specialized personnel that can solve the problems that can arise.

2.2.3.3. Technical Personnel

The technical personnel, when it does exist, generally belongs to a different speciality than is needed, and will learn step by step the movement of the factory. This means that there doesn't exist technicians specialized in the subject.

2.2.3.4. Processes

On the other side, it is possible to detect flaws in the production process due to technical knowledge deficiencies over the subject. In most cases, the deficiency can be found in the machinery handling, affiliated elements and in the products assembled as to be able to take a maximum advantage of the capacities of the equipment. The attendance of well-trained personnel able to work in an efficient form, but mainly with security, is necessary.

2.2.3.5. Maintenance

An aspect that may be emphasized is the fact that certain factories observe the application of maintenance even though it doesn't fulfil the whole function. At least it exists, and security measures are also observed. This is due to these factories having professional technical personnel, whose work can be reflected in the organisation of the enterprise, and once more, this comes to demonstrate that well-trained personnel is something more than indispensable in the factories.

In the majority of the plants (but not in all) there doesn't exist any maintenance system, and work is done sporadically so that the life of the machinery is greatly reduced.

2.2.3.6. Design

This is a very important factor for the development of the market, but mainly for export and unfortunately it is practically unknown by the furniture industry in Mexico. Its only manifestation is found in an individual form in the expensive furniture or in private decorations, and also in industries that have technology and designs that depend on external influences to make furniture for people with great economic resources.

In Mexico there exist two schools of Industrial Design both are in the Federal District (Mexico City), whose graduates have begun to change the view on furniture design. It is necessary by all means that the young designers be trained more widely in this subject.

These schools have an annual entrance of approximately 100 students, with a desertion rate of 15 to 20% during the first two years. Its study plan is a five year one which is basically directed to give the student the necessary knowledge for developing designs for industrial products.

The market of furniture design is beginning to open up, and it is necessary that in general the industrialist is convinced of its need, since nowadays they don't make a great variety of specific styles, and if an adequate industrial technology is applied, it could be possible to combine and integrate in a better way the styles, thus being able to produce them on a larger scale, thereby bringing down the product's price.

2.2.3.7. Equipment and Machinery

There exists a large installed capacity of woodworking equipment and mechanization is more intense each day, so the craftsmanship is being left behind. Yet there is a need for training in the better utilization of this equipment.

2.2.3.8. Methods and Improvements

The methods aren't completely up to date, and improvements are being introduced sporadically. In some enterprises the engineering techniques are known, but they are not applied systematically.

2.2.3.9. Planning

In many factories planning does not exist (expansion is done slowly and with an almost complete ignorance of technology) and thus there exists an imbalance in the capacity of the established equipment.

That is, that they have acquired machinery with different productive potentials, without taking into consideration the needs of actual and future production.

2.2.3.10. Capacity

In most factories they don't use the established capacity for two fundamental reasons:

- a. Stoppage of production when it becomes unprofitable and expansion desire for evasion of the social responsibility and the administrative problems that come with the increase of production (especially the human problems) and;
- b. The focussing on the market created by a restricted number of buyers with high incomes actually reduces the competitiveness of products with respect to the larger mass produced models.

2.2.3.11. Quality Control

Quality control does not exist in the factories. At the end of the process they eliminate those pieces of furniture with visible defects, with the corresponding loss of time and materials.

CONCLUSIONS

1. Natural Resource

The quantity of the forest resource is unknown, because the National Forestry has not finished the inventory (those for the tropical forests that are almost 50% of the country's woods have yet to be done). Nevertheless, it is known that the resource is very valuable, and it should be taken into account from the economic point of view, the more so because it is renewable natural resource.

2. Market

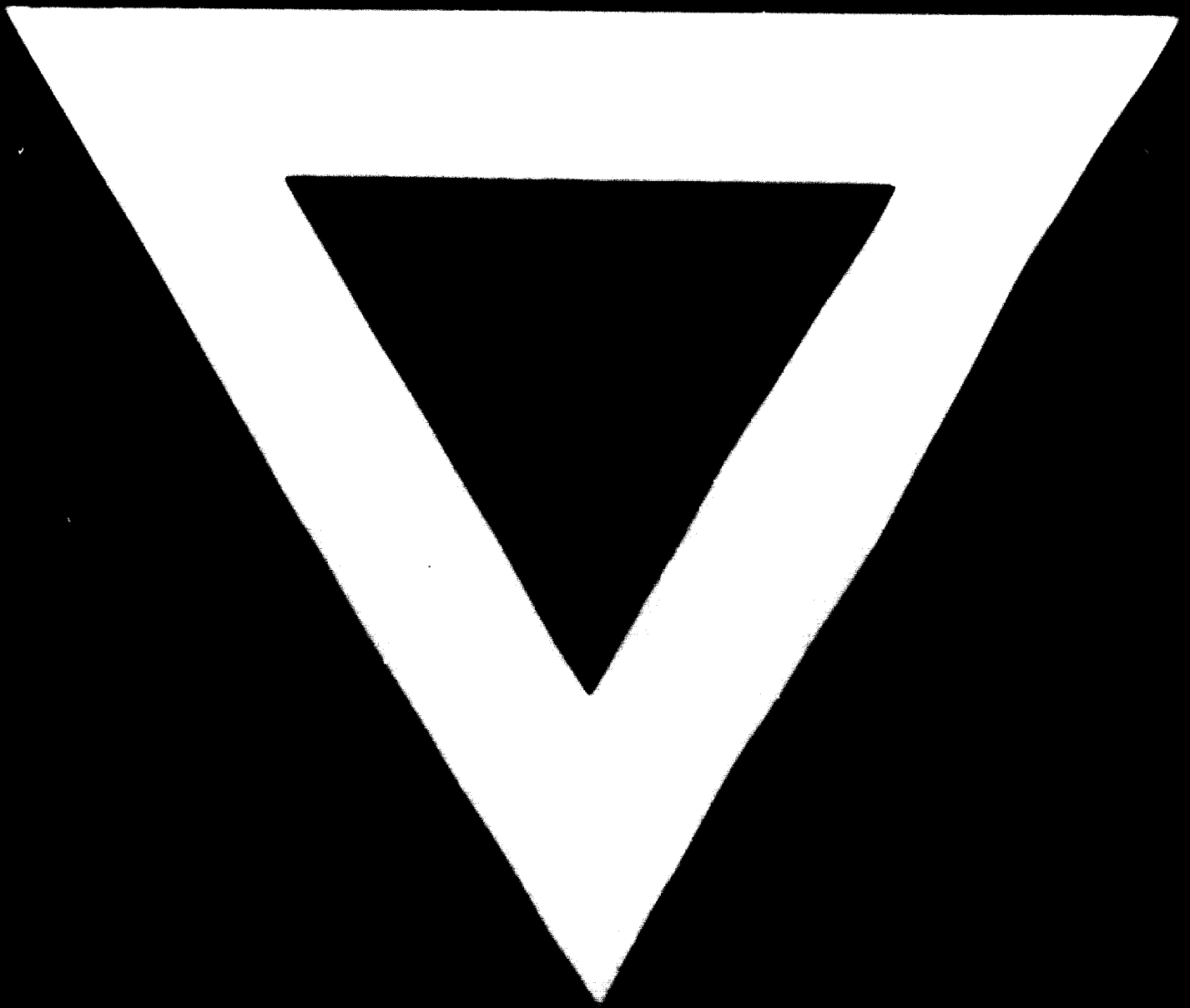
It is necessary to study very well and with great care the international and local markets of the woods and their products.

3. Exploitation and Industrialization of the Resource

3.1. Starting from the evaluation of the needs of products made out of wood, and even before completing the studies on the natural resource and their markets, we can try to satisfy our needs immediately by integrating the centres of primary production (sawmills) that are being promoted in all the forest regions of the country.

3.2. We think that it is necessary that this integration of the forest resources industry must start from zero to be able to satisfy the needs as these are being estimated, and to satisfy the needs through the massive production of manufactured products. It is also necessary to develop both the Industrial Design (see reference on page 7) and the technical disciplines that we mention in this report.





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