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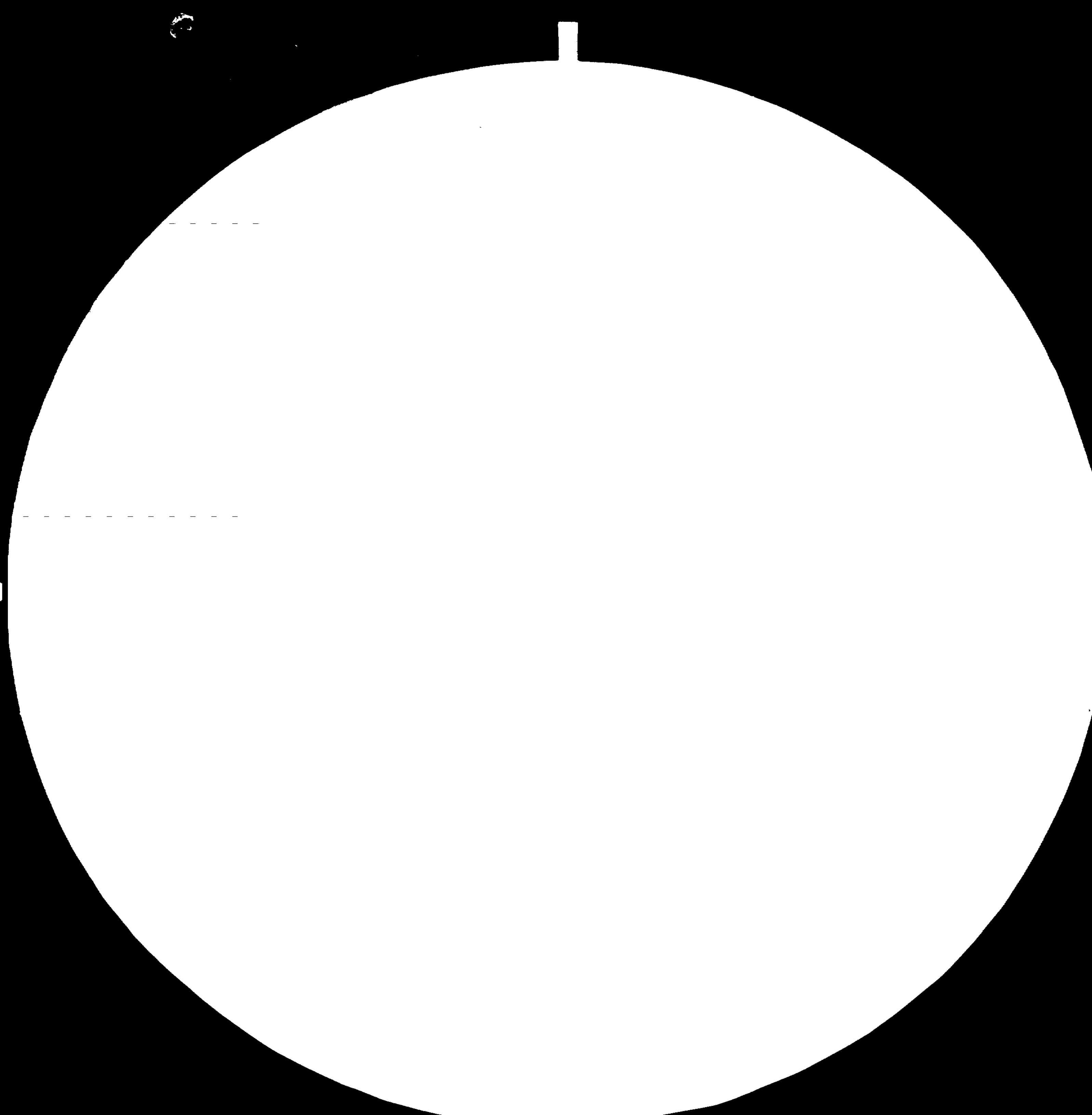

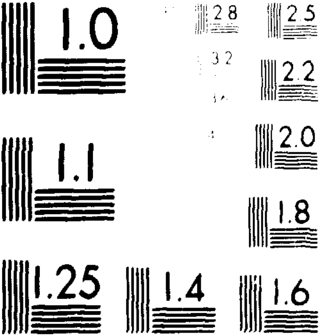
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STRUCTURE STUDY IN PORTUGAL .

VERY SMALL SCALE MILLS AND MEDIUM SIZED MILLS

FOR PAPER AND BOARD .

Final report prepared for the
Government of Portugal

by

Dipl.Ing. Jochen F. Hoesch

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JOB DESCRIPTION

UTF/POR/001

<u>Post Title</u>: Expert in Small Paper Mills

<u>Duration</u>: 3 Months

<u>Date Required</u>: 1st April 1982

<u>Duty Station</u>: Lisbon with travel in within Portugal and Europe

<u>Purpose of Project</u>: To analyse the present status of the small paper/board mills in the country, identifying their strengths and weaknesses, and to bring forward, against a review of recent changes in Spain, Italy and Federal Republic of Germany, recommendations how to modernize, rationalize and expand their production and a strategy and measures to be introduced in order to improve their competitiveness within the Common Market, once Portugal has joined the EEC in 1984/85.

<u>Duties</u>: The expert is expected to work with the Portuguese staff of UTF/POR/002. This group is preparing basic information, including:

- Enquiry to the mills through a questionnaire.
- Data on small paper mills which will be a summary of the data taken up by the Inquiry and in the visits made by the Portuguese Group which is to include all mills (scope as per document E 08).

.../...

- Other studies will be prepared by the Portuguese group as well, as additional subsidies namely concerning: labour (labour relation, remuneration system, union contracts, etc); prices, quality, channels of distribution, methods of transportation; projects to modernization or expansion. Also, a study on the waste paper situation is being carried out. Based on the data collected by the Portuguese group and the expert's visits to a certain number of representative mills, the expert shall:

1. Make a thorough analysis of the present status os small paper/board mills through the results of the enquiry and other data taken up (which will be made available by the Portuguese group) and also with basis on his own personal impressions from the visits.

2. Visit a few successful small paper mills in Spain, Italy and the Federal Republic of Germany in order to report in in detail on the strategies adopted in these mills to cope with the present changing conditions in the pulp and paper industry in Europe.

3. On the basis of the information collected both inside and outside Portugal, elaborate a conclusive report on the sector. The report shall establish a characterization of the sector as such, generally according with the items that follow. The report is to serve as support for the following main purposes:

.../...

a) To provide recommendations for a strategy and measures to be introduced in order to improve the competitiveness of small paper/board mills within the EEC, through, for instance, changes in production pattern modernizations, rationalizations and expansions.

b) Recommendations and other subsidies for the elaboration of a law as detailed below, intended for the orientation on Government support to the industry whereby incentives and other measures may be granted for stimulating the sector to improve its competitivity; and to be able to stand the future situation of Portugal as a member of the EEC.

In the Report the expert shall, namely, cover the following points:

1. Problem of waste paper supply, a decisive factor since it is the only raw material used by the sector; the problems involved - price, domestic supply, possible resource to foreign supply market.

2. General assessment concerning operational conditions of equipment in the existing mills.

3. Collect and comment, from the sample mills, information concerning control systems and accounting methods. Also, wherever possible, obtain complementary information and draw up profit assessments in typical cases.

.../...

4. Collect and comment on information from the mills of their markets (including captive markets, if any) and weight chances of survival or the need for substancial changes in the context of the future situation of Portugal as a member of the EEC.

5. Collect information on prices, quality, channels of distribution and other possible marketing factors.

6. Summarise projects of modernization or expansion under implementation or being studied.

7. Examine such problems as pollution, abatement, energy utilization, maintenance.

8. Make a praralle1 between Portugal and the case studies of the mills considered above.

9. Comment on needs and definition of a policy and technical education facilities.

Qualifications: Univervity degree or equivalent knowledge in pulp and paper technology with at least 15 years of practical paper making experinence in a paper company in the Common Market.

Language: English, possibly Portuguese and/or French and/or Spanish.

Backgroung Information: Portugal has a population of nearly 10 million. Its pulp and paper plants, at present 101 mills, have a long tradition of producing a multiplicity of pulps, papers and board, from locally avaivable woody fibrous raw materials like eucalyptus and pine and from locally collected waste papers.

About 100 paper producing units, mostly privately owned, produced 494,000 tons in 1979 from which 169,000 tons were exported. The difference of 325,000 tons plus 45,000 tons of imports (35,000 tons are newsprint, which is not produced in the country) bring the paper consumption in the country to 37 kg/head and year.

The paper consumption increased in the last 20 years by about 6% per year. Only recently it dropped to 5%.

The paper producing in the mills increased in the last 5 years by 12-13% per year, and the paper imports were reduced from 25% to 12.5% in 1979.

The paper production for export increased from 65,000 tons (1974) to 170,000 tons (1979).

The pulp and paper industry in Portugal is organized in four groups:

.../...

- Southern Paper Section
- Northern Paper Section A.N.I.P.C.
- Portucel
- Pulp Section

The Southern Section FAPEL produces with 3,630 persons 178,000 tons in 14 plants. The average size of a unit is 13,000 tons. The Northern Section produces with 3,946 persons in 87 plants 316,000 tons. The average size of a unit is 3,600 tons. A person produces 31 tons per year in the North and the production in the South is 50 tons/person.

It is generally recognized that the small paper mills in Portugal behave themselves quite differently from the larger units. In fact, it is not only the question of the average size of the mills being significantly smaller, but a number of characteristics that make the sector markedly distinct from the bigger units. The distinction - which indeed calls for separate studies for the sectors - is of great importance when setting up the permises for the characterization of the small mills sector. Just to point out some of the fundamental differences between the two sectors, the following aspects concerning the small mills can be quoted:

- The average paper production is very small, as it has often been pointed out, but, also, the capacity of these mills has not been fully utilized because the market demand is very low. If an estimation made by their Association (ANIPC) is correct, in the year 1977 the average production was less than 50% of the installed capacity. Therefore it will not be profitable to increase the potential capacity of the mills unless the market takes considerably more of the production.

.../...

- There are no pulp mills, big or small, included in this sector.

- Practically all small mills are using waste paper as raw material, which makes this sector very much dependent on prices and availability of such raw material. This is very critical as far as one of the most favourable aspects of their activity is their resource to a raw material which has, so far, maintained an acceptable price.

- Generally speaking, the small paper mills are not integrated, neither upstream nor downstream.

- Obsolescence of the equipment, corresponding to the fact that the mills are generally very old.

- Management and cost control are essentially in the hands of the owners. Management tools are generally very simple, with very limited or no detail about specific consumptions, production costs, wastes and so on.

- Energetic situation can be a positive aspect in such mill cases where they produce steam from saw dust or other wood wastes having very low prices. However, in other cases fuel oil is used. Apparently there is little control on steam and heat losses and excessive power consumption as well.

- Financial charges are usually very low.

- Quality control is very limited or non-existent.

- The mills are usually not concerned with environment problems. The mills dispose their liquid effluents to small streams, with consequent pollution.

.../...

It is the wish of the Directorate of Light Industry Planning, a body within the Ministry of Industry, to carry out a study on the existing private paper/board producing plants and examines their present capabilities and their future chances of not only surviving but actively defending their home markets and further increasing their export competitiveness in the Common Market and overseas resulting from their indigenous fibrous resources and stratetig position.

UNIDO has been subcontracted by FAO under project UTF/POR/001 to carry out a study of the existing small paper mills.

The expert's studies and recommendations will be the basis for the Ministry to prepare a Government policy and a law for reorganizing the industry. This law may consider, namely, credit facilities, incentives and other subsidies. The expert is to define, in his report, the type of projects that to be incentivated, in the next ten years to come, in order to increase the production and exportation of paper/board and converted paper products specially in the Common Market.

INTRODUCTION

<u>In the Ministerio Da Industria e Technologia - Lisbon - Direcção - Geral das Indùstrias Transformadoras Ligeiras.</u>
Abbreviation : D.J.G.

The Portuguese working group of UTF/POR/002 consists of :

<u>Group Coordinator</u> : Mr. Artur Sentieiro Marques

<u>Group members</u> : Mrs. Clara Beja Da Costa (Chem.Ing)

Mr. Luis De Azeredo Falcaô (Chem.Ing)

Mr. Luis Gallamba De Oliveira (Pap.Ing. Consultant)

Mr. Celso Ferreira Dos Santos (Chem.Ing)

Mrs. Maria Paula Lecoq Ferreira Carvalho (Secretary and Interpreter English, French and Portuguese).

As an expert of the UNIDO I worked with this group for 3 Months (5. August - 31. October 1982).

The Portuguese working group collected data from 58 mills.- 52 of those mills were visited and the data of 6 mills have been taken up by enquiries. This work was finished on the 26th May 1982.

Out of the 58 mills I personally visited 20 mills and spent on the average about 3-4 hours in each of them. I had intensive and interesting discussions about the actual problems and gave advices to managers and owners during my visits.

I had a meeting on 2nd September 1982 with the President of Technicelpa (Associacao Portuguesa Dos Teécnicos Das Industrias De Cellulose e Papel). Mr. Angelo Loureiro Silva (Grad.Chem.Ing) general manager assistant in INAPA - Setubal. We had an intensive discussion about the facilities for training and education of papermakers and also about a portuguese written paper-magazine which doesn't yet exist, but should soon be edited.

On the 22nd September 1982 a FAO/UNIDO reviewmeeting on the present work took place in Lisbon and I gave a status report of the work done so far in Portugal.

In the morning of the 25th October 1982 I met the President Carlos Bexio de Sa Marques (Associação Dos Industriais de Papel e Cartão) abbreviated A.N.J.C.P. and members of the board.

In the afternoon a general meeting took place with A.N.J.C.P. with the group coordinator Mr. Artur Sentiero Marques as well as two members of our work group and myself. As requested I summarised findings and impressions I got during my mission in Portugal.

During the meeting the President of A.N.J.C.P. asked for assistance to visit with some members of A.N.J.C.P. similar paper and board mills in F.R.G.

I got further general informations on the economic situation of the small scale board and paper mills in Portugal from the Câmara de Comercio e Industria-Luso-Alema-Lisboa (Portuguese-German Chamber of Commerce-Lisbon).

And by personal contacts with several gentlemen working in other industrial branches in Portugal I had the opportunity from reports they made available to me.

The working group had done the very first basic work by taking up data from small paper and board mills and by visiting 58 mills of them in Portugal.- See Appendix.-

My special thanks go to the Portuguese working group for having compiled data on 58 mills, and specially Mr. Celso Ferreira Dos Santos and Mr. Luis De Azeredo Falcaô who organized my tours and helped me to establish excellent contacts with the mill personnel.

1.- WASTE PAPER

There is no lack of waste paper in Portugal at all. I found - unsorted as well as sorted (kraft and newsprint) waste paper. The quality of waste paper seems to be good, the reason is the relatively high contents of virgin fibres.

The very small scale mills I visited used only waste paper. Except for one, which added also knotle-pulp and sorted waste paper in order to produce shoe board.

The medium sized mills also used mainly waste paper, depending on their production line. Further I found sorted, unsorted waste paper and semi chemical bleached kraft pulp (long and short fibred). Nearly all companies are expecting a loss of 20% by weight of the waste paper bought.

One mill confirmed that it used 10-12% imported waste paper. Some years ago, when the US$ was very cheap, waste paper had been imported, the quantities are unknown.-

The consumption of waste paper in 1981 was :
(Source : A.N.J.C.P.)

ACEL	Association of pulp producers	40 000 to
FAPEL	Associao Portuguesa Dos Fabricantes De Papel e Cartao	40 779 to
A.N.J.C.P.	Associao Nacional Dos Industrias De Papel e Cartao	109 935 to
		190 714 to

The sales price of unsorted waste paper amounted in August 1982 to 5,60sc/Kg. I was told, that this sale price would depend on the sales price for pulp. The sales price is steadily increasing. The sales price of waste paper seems to be regulated.

In the EEC the sales price of waste paper depend on the demand of the market and therefore it goes up and down in a wide range.

When Portugal will join the EEC in 1984/1985, the free market and the liberalized trade will change the market for waste paper in the way mentioned above.

In order to get further informations on this subject, I asked if there were any association of waste paper dealers or a large whole saler whom I could contact. My intention could not be fulfilled during my mission.

Further informations could be found in the report E 25 Reciclagem do Papel prepared by ASM.

2.- ANALYSIS, ASSESMENTS AND ALTERNATIVE FOR THE FUTURE IN THE EEC

2.1. Very small scale mills

At the moment there are about 12 paper and 21 board mills of very small scale with only open-air drying of the paper and board production. These very small scale mills, most of them are not producing more than 100Kg/h, are family owned and run in a traditional way with old fashioned machinery. I never met an owner who had been trained or educated as a paper maker. His know-how consists in tradition and in the experience he got during his life. The older the owner, the less anything will be altered is my impression. These mills don't seem to run all over the year.

To my regret, my wish to visit two further small scale mills at the end of october couldn't be fulfilled. I wanted to study the influence of the autumn on the drying capacity and on the market after the fruit season because obviously the market drops after the fruit season.

These mills are associated with A.N.J.C.P f them are independent (not organized).

They produce wet-labs as paper or board. The paper wet-labs are winded on a hasp, then cut by hand and the sheets are hanged up in a dryer barn, I didn't observe any use of auxiliary chemicals like glue, wax or colours.

The wet-labs of board are taken off from the formate roll and then spread out on a meadow for drying in the open air. Calandering follows and at last the cutting of the edges. The wet-labs are not pressed before drying, which would increase the drying capacity. The reason for this seems to get a very stiff and bulky grey board or paper without dried tensions.

The stock preparation exists of an edge-runner, which defibres the unsorted waste paper used a s raw-material. An edge-runner is labour intensive. Some mills can use hydraulic power instead of an electrical drive when it is rainy enough and the river carries water.

An edge-runner gives a curly effect by defibering which is an advantage for a bulky and stiff paper or board product.

The 2 heavy rotating stones, desintegrate dirt particles, so far, as that a cleaning equipment for heavy particles is not necessary.

From the edge-runner the defibred raw material falls into a beater filled with water, the consistency is about 5%. This waste paper pulp is beaten and then it flows in a chest with about 3% consistency. The stock should remain for 3-4 hours in the chest in order to swell. Afterwards, water is added in order to lower the consistency down to about 1%- A vibration screen for removal of plastic particles is passed to go on the cylinder moulder for forming a sheet of paper or board. The wet-lab is picked up from a felt and layer by layer will be wounded up until the required thickness is reached.

A mechanical control system for thickness (not very exact) rings a clock, when the wet-lab has to be taken off the formate roll.

The taking off the wet-labs from the formate roll is manual work and limits the production speed down to about 25m/min. A modern grey-board machine equipped with an automatical cutting formate roll has a production speed of 60m/min with a 55g/m2 single layer.

The available space on the meadows for board or in the dryer barn for paper, the weather conditions and day-time limit the capacity of drying. On the average 7 persons work in two shifts 88 hours a week.

The very small scale mills have neither administrative cost, nor capital cost. They don't calculate depreciations. They have less labour problems and lower labour cost as medium sized mills because family members work within their mills. Therefore they can produce at a low price and can be flexible towards the demands of the market.- On the other hand they can't really increase their productivity. Except if they install a dryer. But the installation of a simple dryer with a steam boiler is expensive and not economical for one mill only.

The costs of raw material, labour, electricity, living and maintenance will grow, expecially in a time of inflation with a rate of 25% (first half of 1982). The sales price won't follow in the same way. When the productivity remains more or less on the same level, the growing costs will eat up the profit and the capital. Therefore these mills seem to have no chance in the future.

Mills in very good condition have lower maintenance cost and might have a chance to exist for longer years than mills with run down equipment. But even a very specialized mill producing shoeboard, equipped with a simple dryer, burning very cheap waste material from the shoe-mills which I saw, will not last longer either.

Newcomers in the field of the very small scale mills with open-air drying are unknown. A lot of the old very small scale mills al~~l~~ready shut down. Informations told me that 25% of those mills have closed in 7 years. (See Appendix).

I didn't find any accounting methods. Even the turnover or specific figures are unknown. They don't calculate in the industrial way. Measuring methods are not used. They only think in grossprofit.- On the other hand these mills are so small, with an hourly production mostly under 100Kg/h that the owner knowing his costs by heart can easily run the mill. One young owner told me that he is adviced by a chartered accountant.

<u>How to create bigger and economical units in respect of Portugal joining the EEC in 1984/1985</u> ?

a) The creation of companies or cooperatives of several very small scale mills being locally close to each other should be investigated. First they could invest in a modern and economical dryer with steam boiler with a minimum capacity of 12to/24h. The members will send their wet-labs to this company for drying. Later on, a modern and economical grey-board machine can be set up in front of the dryer. After a successful start up of this new machine, the members can shut down their old fashioned factories.

The investment promotion law S III should be used in order to finance this project. I heard that a reform is in preparation in order to facilitate projects like this one.

<u>How to create more uniform board</u> ?

b) An increase of the production speed of the very small scale mills of about 10% - 20% can be reached by using a photo-cell measuring the thickness of the wet-labs and lowering automaticaly the speed of the machine, when the wet-lab is taken away from the formate-roll.

c) A third alternative is to change the production of the very small scale mills into converting of paper, board or even plastic. It needs less capital and space. The very low labour costs in Portugal are a good basis for labour intensive products which could be sold in the EEC.

Some mill-boards' applications

d) The grammage of solid board begins with about 500g/m2 up to 3000g/m2, sometimes up to 4000g/m2.

There are mill-boards for wrapping or impregnating purposes with a lower specific weight (0,7 - 0,8kp/dm3) and press-board with a higher specific weight.

They can by made waterproof or protected against inflammation. Wax is added to improve the quality of press-board. Laminating or pasting of mill-board with different kinds of paper or plastic may be a way to do specialities.- Even grey-board can be produced in different colours.

Examples of grey-board

Letterfile, bookbinders-board, gasket-board, cover-board, board for cases, luggage binder's board, imitation leather-board, autopanel-board, clothing-board, shoe-board, Jacquard-board, container-board, display-board, board for puzzles, games, press-board, capboard, board for file covers.

Competition of corrugated board between mill-board

e) Corrugated board will be a strong competition for grey-board. On the other hand in order to lower the noise inside cars, there might be a come back for grey-board. The building industry needs isolating material for saving fuel, this could also give a chance to develop a suitable product on the base of mill-board.

I suggest to study the products already beging on the Common Market in order to get the informations which will show what kind of new products should be developped in the own mill.

f) A special use for open-air dried paper is cartridge paper.

2.2. Medium sized paper and board mills

There are about 25 medium sized mills defined with an output under 10 000to/year. Most of them are associated with A.N.J.C.P. others with FAPEL (Associao Portuguesa Dos Fabricantes De Papel e Cartao).- The remaining mills are independent (see appendix "Associations").

I personally visited 16 medium sized mills.

Most of them use unsorted or partly sorted fibre kraft pulp. The structure of these mills is very different from each other.

Two mills which I visited had invested in 1981 a new machine for expansion of their grey-board production.- One mill with a daily production of 30 tons exports about 20% of its production, but has some difficulties with its quality and also some financial problems.- The other mill with a production of 4,5 tons/day plans to make some export too. It belongs to a company which collects also waste paper.- Both mills used oil as fuel. Their machinery and equipment were modern.-

Five mills produced fluting paper and also some box-board. In order to expand their production, two of them bought second hand papermachines in 1981, but they weren't installed yet.

Nearly every mill had invested or plans to invest in order to modernize the machines. I saw for example 6 edgerunners which were replaced by one pulper with great success.

Some mills belong to companies which convert fluting paper into corrugated board.- One mill, producing fluting paper and converting it into corrugated board, got 5,5 millions Escudos subsidies in 1981. Machinery and equipment were run down. The productivity and efficency were very poor and reliable figures weren't available. Staff of the mill which changes every 3 months was managing the mill, which probably won't survive without any other subsidies.

A brandnew mill, with an excellent engineering and producing hygienic and toilet papers had just started its production in 1982. It is the first mill in Portugal which installed a very modern deinking system for waste paper.

Unfortunately the installed capacities of hygienic and sanitary papers in Portugal with a total of 76 000to and an apparent consumption on the domestic market of 29 000to in 1981 show how difficult the situation has become for producers of these grades of paper. This mill might soon be in a difficult situation.

Another mill, well organized with a cost, production and quality control, machinery and equipment in best condition, producing tissue papers from 13g/m2 up to 160g/m2 seemed to be very healthy. The raw material used consisted in about 90% different kinds of wood pulp and about 10% sorted waste paper. This mill was also exporting in the EEC with great success.

There are two mills producing coated board. I was told that the domestic market was 20 000tons to 24 000tons a year for coated board. These two mills produced together about 8000to/year. So that 12 000tons to 16 000tons coated board have to be imported. One of these two mills had an old cylinder-moulder machine, which gave quality problems. The mill itself seemed to have a good cost control and was making marketing research. A new and modern board machine would be the clue for the future.

Many other mills I visited had shut down for holidays and used this time for repairs.

According to the Portuguese group statistics, the installed total capacities of paper and board are 750 000to or 650000to according to PPJ-Magazine of July 1982. The apparent consumption of the domestic market was 501 000to in 1981.

Overcapacity exists also in the EEC.

The invest4d capital has to be used in order to overcome the cost. Therefore the Portuguese paper and board industry is forced to export.

The last 20 years were good "paper years" with an yearly growth of 6%. Therefore many mills invested in order to expand their capacities. Some of them overinvested and have now financial problems.

To avoid such overcapacities in future feasibility-studies should be done and as base for rentability a capacity yield of max. 85% should be calculated before further investments for expansion are done. It is obvious that some mills didn't do so.

In Portugal the labour costs are very low but in spite of that the majority of the visited mills reported about labour aproblems. As it isn't possible to dismiss anybody, the staff isn't motivated to work. There is also urgent need for skilled and trained workers as well as well trained managers. These above reasons lower the productivity and the efficency of the mills in general.

In order to overcome these difficulties premium systems would help and motivate the workers. A centralized national school centre for paper makers including a paper institute should be established, otherwise the paper industry of Portugal will not get a well trained staff.- In the EEC, France, Italy, Great Britain and FRG have organized to get such trained and educated staff.

The number of well organized mills I saw was small. Some mills knew well their market and they found market gaps for specialities and qualities in small quantities. They seemed to make good profits.

The majority of the medium sized mills produce common grades of paper and board. The competition exists mainly in the sales price. Cost and productivity control should be systematically developped. It would be advisable to study if investments for modernisation and rationalisation won't be more economical than investment for extension only. It would be advisable to promote quality and to develop the sense of quality.

For the Portuguese paper and board industry, short fibre pulp can be bought in Escudos instead of US ∮ and with low locally freight cost. This is an advantage for all printing papers and boards.

1.- Portugal has the great advantage of low freight costs for pulp and especially of low labour costs but this isn't enough to be competitive in the EEC.

2.- The strength of the Portuguese medium sized paper and board industry lies in labour intensive paper and board products with a large amount of man power. Their qualities could be further improved with short fibred pulps in their furnishes.

3.- To be competitive on the EEC means to have a constant high quality and a greater efficiency.

The demand of the domestic and export market gives the clue of what has to be produced. This requires a marketing research. Of course, medium sized mills can react in an elastic and flexible way. But in order to be really successful, systematic work is required controlled by constant supervision of the product, which is including know-how. Precondition for cost control is the well organized factory thus furnishing reliable figures.

A production control has the aim to get a high and constant net-production. Some important criteria are : a good maintenance, less broke, constant required quality, hardly any stops and a suitable programm without to much changes.

My impression is that there is a reserve in capacity and productivity in the existing machinery and it could be altered in more efficiency.

Mills which ask for assistance and help in developping the above mentioned points, should get portuguese speaking specialists who work for a certain time with them. The government could ask for these specialist at the UNIDO for example or other international organizations or foundations.

<u>Recommendations for medium sized mills</u>

1.- Feasibility-studies should be made before investing in larger facilities for production. The yield of capacity should be calculated on a base of max. 85%.

2.- Better products using more short fibre pulps.

3.- Labour intensive products for sales in the EEC.

4.- More marketing.

5.- More constant quality

6.- More cost control

7.- Establishment of national educating centre and paper institute for research

8.- To form partnerships with EEC companies

9.- To obtain assistance in specialisedfield from outside the EEC and / or international specialists.

10.- In order to get motivated workers a premium system should be introduced.

11.- An anonymous comparison between factories with similiar production with specification for cost, consumption of oil, fibre material a.s.o. would be an important source for the factories themselves.

12.- The statistics should be reliable and comparable. It would be good to adapt the system of CEPAC-statistics which are common in the EEC.

3.- COMPETITIVENESS

3.1. Economy

The Minister of Finance and Planning Joao Salgueiro said at the end of 1981, that "since 1974 Portugal had been living much above its means with continuing budget deficits and internal and external indebtedness".

The rate of inflation amounted in the first 6 months of 1982 to 25% with a growing tendency. The rate of interests is between 22% and 24% for a credit.

Every year on the 31st of December the government fixes the devaluation of the Excudo for the coming year (crawling peg system). For 1982 a devaluation of 0,75%/month or 9%/year was decided. The unemployment was officially estimated at 386 000/ 8,8% of the working population in 1981. The domestic market is still relatively good, partly pushed by inflation and a natural growth.

An action of the government to correct the value of the Escudo realistic against the EEC-countries currencies is necessary to give the elasticity, as well as the judged validity and would give a good chance to survive after joining the common market.

The Association PAPEL (14 members of paper and board companies) reports for the first half of 1982 an increase of :

total	sales	in	tons	of	9%
domestic	"	"	"	"	7%
export	"	"	"	"	16%

In 1981 :

The total paper and board production was		566 000to
" " " " "	imports "	76 000to
" " " " "	exports "	144 000to
The apparent consumption		501 000to

In general the portuguese market is unpretending and small sized orders are usual. When Portugal will join the EEC in 1984/1985 a strong competition will take place which will often be aggraved by an overcapacity.

Newly developped products may substitute products which have been produced in the past, for example corrugated board will be a serious competitor against solid-board for wrapping purposes, or the car industry might have interest in using solid-board in order to lower the noise in the cars and the house-building might find new markets (isolating purposes).

The distribution channels of the very small scale mills go only to a few local dealers.- The distribution channels of the bigger mills are mainly done by wholesale dealer. Some mills deliver directly to large customers. There are about 40 wholesalers, 10 of them are market leaders and some of them are also importers of paper and board.

Some paper and board producers are directly exporting. They export to EEC, Spain and African countries.

Unfortunately I didn't get the chance to contact a wholesaler or the purchasing department of some important companies which buy paper and board to verify above mentioned informations, which were found in reports from German banks.

I was told that there aren't any import restrictions, but I was also told that a certain bureaucratic restriction exists against some imports.

3.2. Cost

Situation October 1982

August 1982
Exchange Esc/DM = 34,10/1.-
Sales prices in Esc/Kg

Bleached sulphate short fibre pulp	25,68	Esc/Kg
Semibleached suphate " " "	22,9	Esc/Kg
Unbleached sulphate " " "	19	Esc/Kg
Bleached sulphate long " "	52-57	Esc/Kg
Semibleached sulphate long " "	29	Esc/Kg
Bleached sulfite long fibre pulp	34	Esc/Kg
Bleached sulfite short fibre pulp	26	Esc/Kg

Groundwood isn't produced in Portugal.

Waste paper

Situation August 1982

Unsorted waste paper costs on the average 5,6 Esc/Kg.

Oil and power cost

Situation September 1982

Oil with 1% sulphur	14 500 Esc/tg
Oil with 3,5% sulphur	13 500 Esc/to

On the average the oilsteamboiler are modern. All the oil has to be imported.

Wood waste, sawdust and bark

Situation August 1982

500 Esc/to

The wood waste ovens were everywhere but old fashioned.

Electricity

Situation August 1982

On the average : 5,5 Esc/KWh

Only about 15% of the energy consumed 1981 in Portugal came from non-oil sources and more than half of the electricity used is imported.

Labour costs

Situation September 1982

Working hours - 42 hours/week - 4 shifts - 350 working days/year
Working hours - 45 hours/week - 3 shifts from Monday 8h-Saturday 20h

Monthly wages and salaries are payed 14 times a year.
4 weeks holiday.

Unskilled worker	13 000 Esc/month	x	14
Skilled "	16 000 Esc/month	x	14
Machine tender	22 000 Esc/month	x	14
Foreman	25 000 Esc/month	x	14
Administration			
Manager	35 000 Esc/month	x	14
Middle management	22 000 Esc/month	x	14

These costs are on the average 4,3 times higher in the industrialised countries, eg, FRG.

3.3. Sales prices of grey board

Situation August 1982

25Kg (1 Bushel) - 1. quality 560 Esc.
2. quality 510 Esc.

4.- GOVERNMENT SUBSIDIES

The investment promotion bill exists since 19.6.1980. Because of bureaucratic reasons, the bill isn't satisfactory. I heard that this bill is going to be discussed in Parliament.

I visited a paper mill which received 5,5 millions Escudos subsidies. The management of this factory was rotating but during my visit I could not find anybody belonging to the management. I could see that the machinery and the equipment was very old and in bad condition. I was told that this mill won't be able to survive without any further subsidies.

Unfortunately I couldn't get any further informations about subsidies.

5.- OTHER RELEVANT INFORMATIONS

Quality

The quality of paper and board may have different criteria combined in one product. For example modern converting machines with a high production speed need a "perfect" runnability to avoid expensive stops on those converting machines.

A good sheet formation is a base for quality, it allows in many cases to reduce the grammage keeping the same physical properties. The result of market research of a particular market could show that there might be a requirement for a grade of paper or board, which could be made by a mill.

Completely new ideas : innovations should be considered, not necessarily from the paper or board industry and probably involving radical ideas in the use of paper and board.

Any information belonging to this topic should be collected and filed. Hard, intensive and constant work is required in order to be successful.

Unions

There are two unions in Portugal. Each branch decides by itself to which union it wants to belong to.-

A contact to trade unions was refused. I intended to study the personnel problems.

Pollution statements

Nobody could tell me about a law against poluted air. There is no control on pollution in Portugal. Rivers and streamlets are very dirty and some of them smell too.

Protection against accidents and fire protection

Nobody knew about a law or control for protection against accidents.

Fire protection : there is none. I saw a lot of workers smoking everywhere in the mills.

6.- RECOMMENDATIONS FOR GOVERNMENT

1.- Very small scale mills close to each other should get together and form a company or a cooperative. The company establishes a modern and economical dryer with a steam boiler. The minimum capacity of the dryer should be 12to/24h. Members of the company deliver their wet-labs to the dryer.

Estimated cost DM 660 000.- for the boiler-house and DM 660 000.- for the dryer.

After a while a new machine can be installed in front of the dryer. After the start up of this new machine the members should shut down their old little mills.

2.- Another alternative for the very small scale mills is an alteration into converting of paper, board or plastic. It needs less space and less capital.

3.- Both ways (1 and 2) are practicable and the government should give financial assistance with the investment promotion bill SIII.

4.- Every mill which asks the government for a specialist to work for a certain time within this mill, in order to increase productivity, technology, to develop cost control systems, quality and so on, should get a portuguese speaking specialist. The government can ask international organizations like UNIDO and other institutions for that purpose.

5.- The paper industry and the board industry are in urgent need of trained and educated employees. It is one of the possibilities to increase the productivity and the efficiency of their mills. For that purpose a central national school including a paper-institute for papermaking should be established by the government. The individual company can then either transmit a small amount of its turnover or pay a certain amount of money to its association for training their personnel.

The students should get trained in a dual system, that means theoretical training in school and practical training in the mills. These students coming from different paper-, board-, and pulpmills get their living cost payed by the associations.- The 3 associations together with technicelpa should form a comittee to study the way of pulp, paper and board for example in Spain-Escuela Del Papel - Tolosa - Guipisloa, in France - Grenoble, in FRG-Papiermacherschule - Gernsbach.

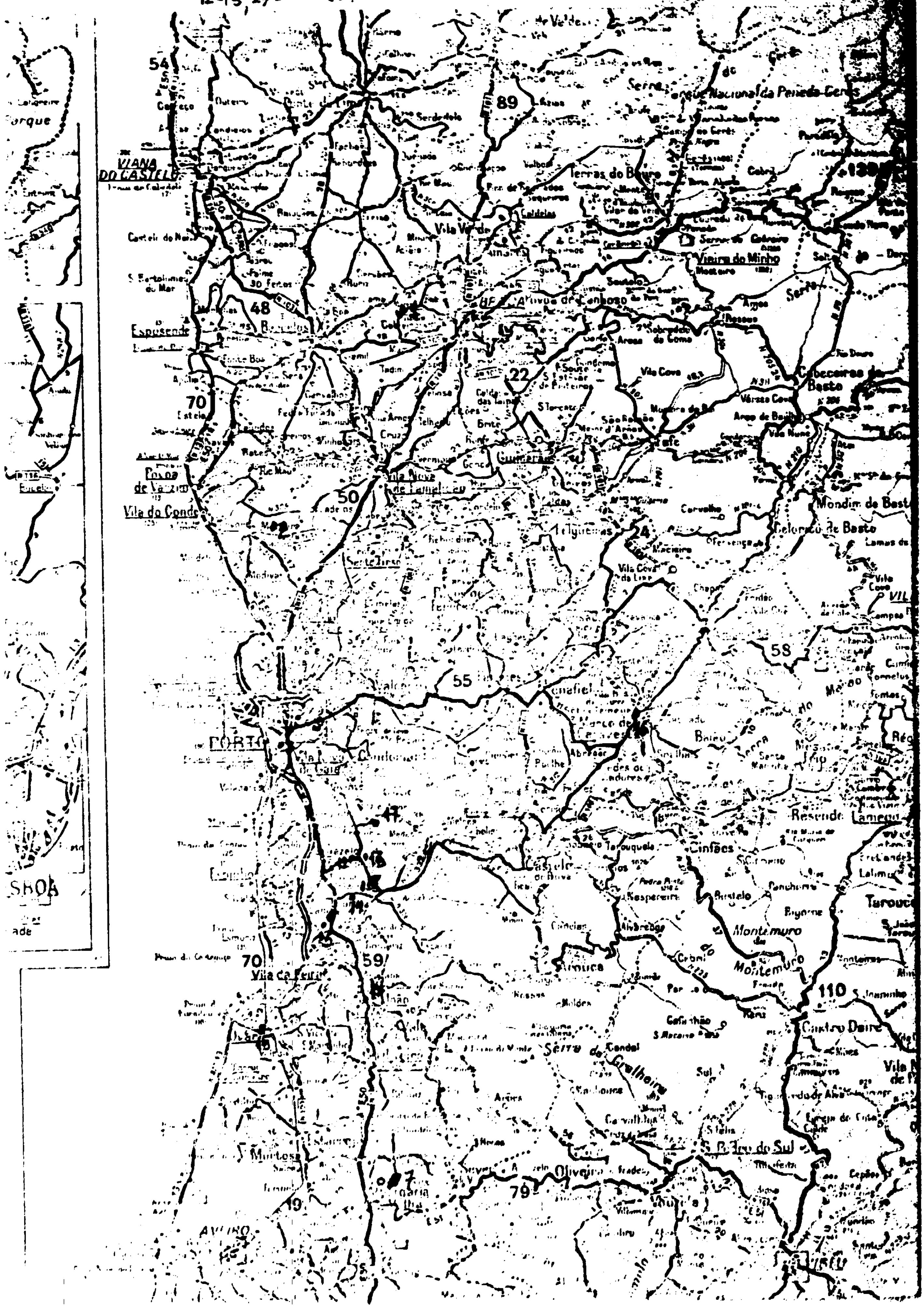
It is advisable that government should ask for support from international organizations and institutions in order to obtain more qualified instructors as well.

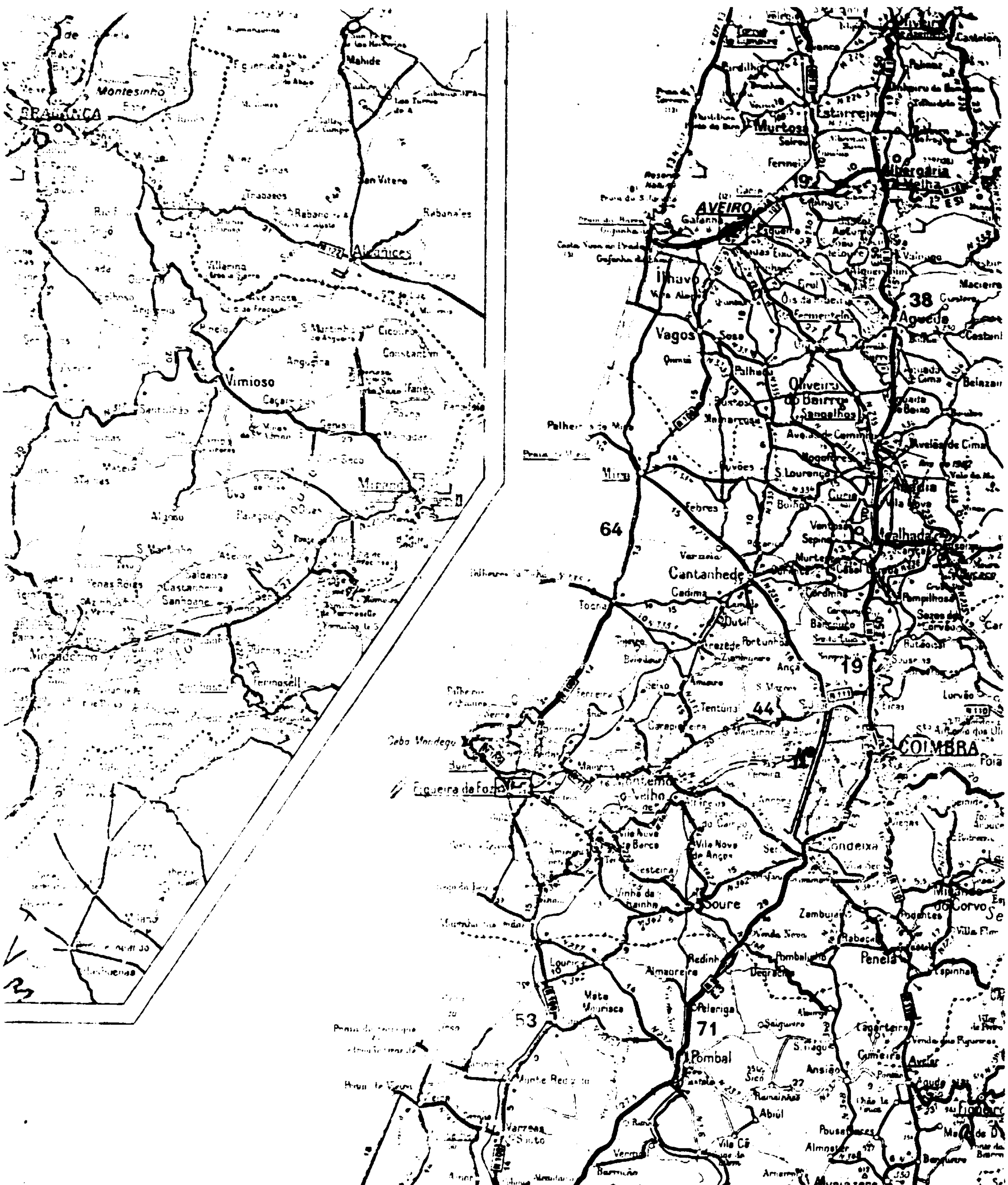
6.- The statistics should be reliable and comparable. It would be good to adapt the systems of CEPAC-statistics which are common in the EEC.

7.- A.N.J.C.P. said to be interested in visiting German mills. In view of Portugal joining the EEC in 1984/1985 this idea should be persued.

APPENDIX

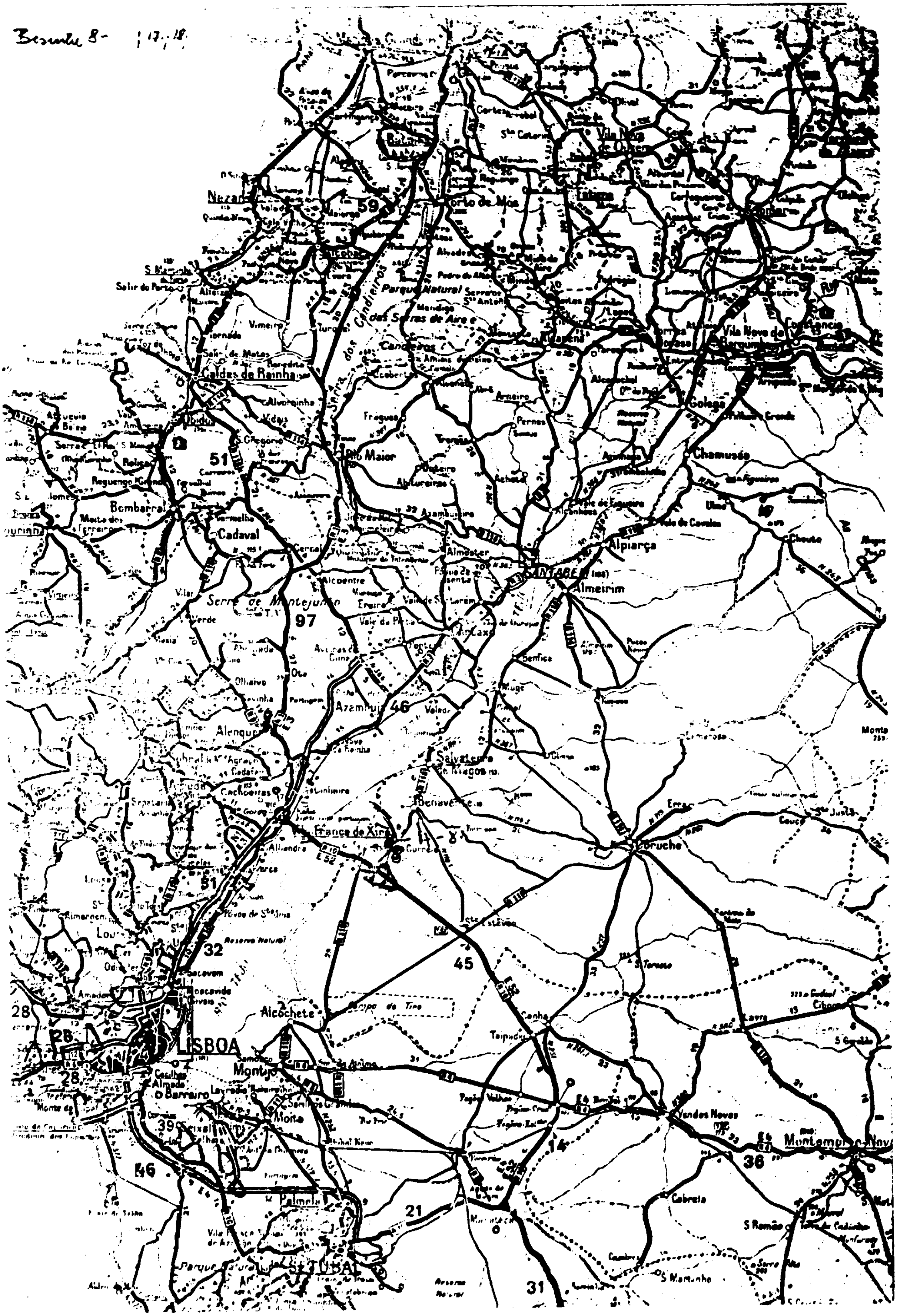
S. [illegible] 1-7, 9-13 [illegible] 82;
12-13, 24- [illegible] 82.





Montesinho
BRAGANÇA
Mahide
San Vitero
Rabanales
Alcañices
Vimioso
Constantim
Angueira
Miranda
Sendim
Peñas Roias
Castanheira
Mogadouro
Fermoselle
Trabazos
Villarino
Ifanes
Paradela
Torreira
Murtosa
Estarreja
Albergaria a Velha
AVEIRO
Gafanha
Ílhavo
Vagos
Águeda
38
Oliveira do Bairro
Sangalhos
Avelãs de Cima
Anadia
Vila Nova
Mealhada
Febres
Mira
64
Cantanhede
Cadima
Tocha
19
44
COIMBRA
Cabo Mondego
Figueira da Foz
Montemor-o-Velho
Condeixa
Soure
Penela
Miranda do Corvo
Redinha
Pelariga
71
Pombal
53
Monte Redondo
Marinha Grande
Leiria
Pousos
Colmeias
Alvaiazere
Ansião
Avelar
Figueiró
Caranguejeira
Olival
Vila Nova de Ourém
Batalha
Fátima
Nazaré
59
Porto de Mós
Alburitel
Ferreira do Zêzere
Águas Belas
Lorvão

Besuche 8 - 17; 18.



1- COMPANHIA DE CARTÕES DO CÁVADO, S.A.R.L.
VISITED ON 10/8/82 (FAPEL)
PEOPLE MET
MR. LUÍS COSTA (TOP MANAGER)
MR. NOGUEIRA (MILL MANAGER)

— BRAGA

IT BELONGS TO THE SAME OWNER OF A ... MILL ... WHAT'S THE NAME?
2- FÁBRICA DE PAPEL DO AVE, LDA (ANIPC)
VISITED ON 11/8/82 (IN THE MORNING)
PEOPLE MET
MR. PEDRO FERREIRA DE PINHO (MILL MANAGER)

— VILA DO

(Waste Paper),
IT BELONGS TO A BIG DISTRIBUTER of waste paper in Lisbon
3- FÁBRICA DE PAPEL E CARTÃO DOURO, LDA (INDEPENDENT)
VISITED ON 11/8/82
PEOPLE MET
MR. ANTÓNIO CARREIRA (IN THE AFTERNOON)
(Manager)
— VILA NOVA DE GAIA

Independent?

4- FÁBRICA DE PAPEL ALVIADA (ANIPC)
VISITED ON 12/8/82

PEOPLE MET
MR. MANUEL FERNANDES DA SILVA

— VILA DA FEIRA

5- MANUEL MARQUES PINTO (ANIPC)
VISITED ON 12/8/82
alle kein
PEOPLE MET
MR MANUEL MARQUES PINTO (AND HIS DAUGHTER)

— PAÇOS DE BRANDÃO

6- AMOROSA ALVES CASTANHEIRA E FILHOS, LDA
VISITED ON 12/8/82
Mutter gestorben
Hannum 1 Mal
PEOPLE MET
MR. ARMÉNIO

— PAÇOS DE BRANDÃO

7- FÁBRICA DE PAPEL DE VALE MAIOR, LDA (ANIPC)
VISITED ON 13/8/82
[illegible]
PEOPLE MET
MR FAUSTO MEIRELES (OWNER)
MR. JORGE (ECONOMIST)

— VALE MAIOR

8 - NISA - INDÚSTRIA TRANSFORMADORA DE CELULOSE E PAPEL, LDA

VISITED ON 17/8/82

PEOPLE MET:

MR ALBERTO RODRIGUES (MILL MANAGER)

- BENAVENTE

9 - FÁBRICA DE PAPEL E CARTÃO DE OTAS LDA

VISITED ON 18/8/82 (in the afternoon) (ANIPC)

PEOPLE MET:

MR ANTÓNIO PAIS

- ALENQUER

10 - FÁBRICA DE PAPEL DE SANTA MARIA DE LAMEGO LDA

VISITED ON 20/8/82 (ANIPC)

PEOPLE MET:

MR JOSÉ ROSA RODRIGUES (OWNER AND MILL MANAGER)

- CHAMUSCA

11- FÁBRICA DE PAPEL RAINHA SANTA (INDEPENDENT)
COTAPEL - PRODUÇÃO DE PAPEL - S.C.A.R.L.
VISITED ON 23/8/82
PEOPLE MET
MR. MACEDO

— TAVEIRO - COIMBRA

12- INDUSTRIAS JOAQUIM FRANCISCO DO COUTO & F.os, SARL
VISITED ON 24/8/82 (PAPEL)
PEOPLE MET
MR. COELHO DA SILVA (MILL MANAGER)
MR. JOAQUIM FRANCISCO DO COUTO (OWNER)

— SANDIM

13- PAPELEIRA DE S PAIO DE OLEIROS, LDA
VISITED ON 24/8/82
PEOPLE MET
MR. COELHO DA SILVA (MILL MANAGER)
The majority of this mill belongs to the mill nº 12

— SERZEDO

Amiel

14- ANTÓNIO MARQUES, LDA (ANIPC)
VISITED ON 25/8/82

PEOPLE MET
MR. AZEVEDO (FOREMAN)

— PAÇOS DE BRANDÃO

15- FAPOVAR - FÁBRICA DE PAPEL DE OVAR, LDA (ANIPC)

VISITED ON 23/8/82

PEOPLE MET

MR. ~~[illegible]~~ MANUEL RODRIGUES MALTA
MR. MARQUES RIOS

— OVAR

16- COMPANHIA DE PAPEL DO MARCO, SARL (ANIPC)
VISITED ON 26/8/82

PEOPLE MET
MR. SOEIRO (FOREMAN)
THE OWNER IS MR MÁRIO GONÇALVES
MARCO DE [illegible]

17 - FÁBRICA DE PAPEL E CARTÃO DE IRMÃOS FERREIRA BARBOSA, LDA (INDEPENDENT)

VISITED ON 26/8/82

PEOPLE MET

MR. JOSÉ JOAQUIM FERREIRA BARBOSA (OWNER)

— LEVER

18 - FÁBRICA DE PAPEL DA CAPA, LDA (ANIPC)

VISITED ON 27/8/82

PEOPLE MET

MR. BELMIRO ROSA

— S. PAIO DE OLEIROS

19 - FÁBRICA DE CARTÃO E PAPEL ANTÓNIO [illegible]

VISITED ON 27/8/82 (ANIPC)

PEOPLE MET

MR SERAFIM (MACHINE DRIVER)

— [illegible]

20 - FÁBRICA PAPEL DE Fontes, Lda;
Lugar de Fontes - SERCEDO visited on 25/10/82
APARTADO 13 - Grijó PEOPLE MET - Mr Heinz Carl
4415 - CARVALHOS Mr. António S. Rodrigues

[illegible] DOS IN[illegible]TRIAIS DE PAPEL E CARTÃO
Sede: Rua 14 nº 671 - Espinho

RELAÇÃO DAS EMPRESAS FILIADAS

Grupo II - Empresas com máquinas de forma plana ou equiparadas

Grupo III- Empresas com máquinas de forma redonda

Grupo IV - Empresas com máquinas de forma redonda e secagem ao ar

FAB. - Fábricas — 63 + 28 = 91

MAQ. - Máquinas — 79

ANICP — medianamente ... — ... — ...

EMPRESAS	Grupo II		Grupo III		Grupo IV		OBS.
1 ABILIO ALEXANDRE INACIO & Cª LDA. Apartado 2 - Torres Novas Tel. 23055	1 F	2 M					
2 AFONSO DE SÁ MARQUES Cascão - Louredo - Vila da Feira Tel. 91155					1 F		
AFONSO DE SÁ MARQUES & Cª LDA. Fiães Tel. 9643127					1 F		
ALEXANDRINO PAIS DA SILVA Sá - Sandim - V. Nova de Gaia Tel. 9650025					1 F		
ALCANTARA-SOCIEDADE INDUSTRIAL DE PAPEL,LDA. Av. da India, 8 - Lisboa Tel. 637075			1 F				
ALVES & ALVES,LDA. Marinha - S. Félix da Marinha Tel. 9620440					1 F		
AMOROSA ALVES CASTANHEIRA & FILHOS,LDA. Candal - Paços de Brandão Tel. 9642237					1 F		
ANTONIO CLAUDIO Zona Industrial - S.João da Madeira Tel. 22624					1 F		
ANTONIO MARQUES,LDA. Azenha - Paços de Brandão Tel. 9642050			1 F				
ANTONIO MARQUES Avintes - Vila Nova de Gaia Tel.9820267					1 F		
BERNARDINO GOMES FERREIRA Cabreira-Grijó-Vila Nova de Gaia (vem [illegible]) 964212(tel.)					1 F		
COMPANHIA DE PAPEL DE GOIS,SARL Fonte do Sótam - Góis Tel. 97180 e 97241	1 F	2 M					
CUSTODIO VIEIRA DE ANDRADE E SOUSA Palaíde - Fermedo - Arouca Tel. 92181-S.João de Madeira					1 F		
DOMINGOS JOSÉ AFONSO SUCRS., LDA. Av. Afonso III - 106 - Viana do Castelo Tel. 22976 Fábrica de Papel de Perre			1 F				

	EMPRESAS	Grupo II FAB.	Grupo II MAQ.	Grupo III FAB.	Grupo III MAQ.	Grupo IV FAB.	Grupo IV MAQ.	OBS
	DOMINGOS TERRA, SUCRS. Gesteira-Souto - Vila da Feira Fechado Tel. 96237					1 F		Fechado
15	FAB. de CARTÃO DO ENGENHO-SANDIM, LDA. Engenho-Sandim - Vila Nova de Gaia Tel. 9650004					1 F		
16	FAB. de CARTÃO E PAPEL DE OTA, LDA. Rua da Madalena, 49 - Lisboa-2 Tel. 873936			1 F	2 M			
R	FAB. de CARTÃO E PAPEL DE OTA, LDA. Rua da Madalena, 49 - Lisboa-2 Tel. 873936						1 M	
17	FAB. de PAPEL A CONQUISTADORA, LDA. Paços de Brandão Tel. 9642162			1 F				
R	FAB. de PAPEL A CONQUISTADORA, LDA. Paços de Brandão - Mó Tel. 9642162					1 F		
18	FAB. de PAPEL DO ANTUÃ, LDA. Moinhos - Cucujães Tel. 23537					1 F		
19 R	FAB. de PAPEL DO AVE, LDA. Fornelo - Vila do Conde Fáb. Tel. 66158 - Esc. 570393			1 F				
20 R	FAB. de PAPEL AVEIRENSE, LDA. Apartado 76 - Aveiro Tel. 22491			1 F				
21	FAB. de PAPEL DO CARRIL, LDA. Rua do Carril - Ovar Tel. 52352			1 F				
22	FAB. de PAPEL E CARTÃO DA ZARRINHA, LDA. Paços de Brandão Tel. 9642584			1 F	2 M			
R	FAB. de PAPEL DO CERRADO, LDA. [illegible] Azenha - Paços de Brandão Tel. 9642556 Ângelo Dias da Silva			1 F				
24	FAB. de PAPEL DO DINHA Rua da Vinha, 26-A - Lisboa-2 Tel. 323579			1 F				
25	FAB. de PAPEL DO ENGENHO VELHO, LDA. S. Paio de Oleiros Tel. 9642078			1 F				
	FAB. de PAPEL DE FONTES, LDA. Lugar de Fontes-Serzedo - Carvalhos Tel. esc. Porto			1 F				[illegible]
R	FAB. de PAPEL DA LAPA, LDA. S. Paio de Oleiros Tel. 9642186			1 F				
	FAB. de PAPEL DE PARAMOS, LDA. Paramos - Espinho Tel. [illegible]			1 F				
	[illegible]-FAB. de PAPEL DE OVAR, LDA. Ponte Reada - Ovar - R. Macedo Tel. 52516			1 F				

	EMPRESAS	[illegible] FAB	MAQ	[illegible] FAB	MAQ	[illegible] FAB	MAQ	[illegible]
29	FAB. de PAPEL DO PORTO NOVO,LDA. Rua Fernão de Ornelas, 35 - 2º Esq.-Funchal Tel. 25963	1 F						
30	FAB. de PAPEL DE SANTA MARIA DE ULME Ulme - Chamusca Tel. 77113/4			1 F				
31 (X)	FAB. de PAPEL DE VALE MAIOR,LDA. Vale Maior - Albergaria-a-Velha Tel. 52211	1 F	2 M					
32	GOMES INACIO & Cª Travanca - Vila da Feira Tel. 96321-S.J.Madeira					1 F		
33 R	HENRIQUE DE OLIVEIRA E SOUSA,LDA. Paços de Brandão Tel. 9642307			1 F				
34	HILARIO DE SA MARQUES & Cª LDA. Sandim - Vila Nova de Gaia Tel. 9650050					1 F		
35 R	IRMÃOS MARQUES,LDA. Esmoriz Tel. 72060			1 F				
	JOAQUIM ALVES DE CARVALHO Paços de Brandão Tel. 9642259 Fechada					1 F		
36 R	JOAQUIM MARIZ DE CARVALHO & Cª LDA. Barcelinhos - Barcelos Tel. 82370			1 F				
37	JOAQUIM RODRIGUES DA COSTA & Fºs, LDA. Paços de Brandão Tel. 9642032			1 F				
38 R	JOSE ALVES DA CUNHA PEDROSA - Fábrica de Cartão Aivone Crasto-Sandim - Vila Nova de Gaia Tel. 9650290					1 F		
39 R	~~JOSE ANTONIO MARQUES DE OLIVEIRA & Cª~~ Gondezende - Esmoriz Domingos Marques Brandão Tel. 72322					1 F		
40 R	LUIS DE OLIVEIRA SANTOS,LDA. Paços de Brandão Tel. 9642026		1 M	1 F	1 M			
41 R	LUIS DE OLIVEIRA SANTOS,LDA. Granja Tel. 9620152			1 F				
42	M. NUNES DE OLIVEIRA PEDROSA Crasto-Sandim - Vila Nova de Gaia Tel. 9650906					1 F		Transferida
43 R	MANUEL FERNANDES DA SILVA Varzea-Canedo - Vila da Feira Tel. 9650015					1 F		
44	MANUEL MARQUES PINTO,LDA. [illegible]-Paços de Brandão Tel. 964[illegible]					1 F		
R	MANUEL MARTINS DE SA MARTINS [illegible] - Penafiel Tel. 9650145 Res. e 95202 Fáb.					1 F		

	EMPRESAS	FAB	MAQ	FAB	MAQ	FAB	MAQ
46	MANUEL RODRIGUES DE AMORIM & FILHO Engenho - S.Jorge - Vila da Feira					1 F	
47 ?	MOREIRA & MARTINS,LDA. Folgoso - Raiva - Castelo de Paiva Tel. 66159 Fabrica de cartão das Laceiras					1 F	
R 48	MOREIRA SILVA & MENDES,LDA. Folgoso - Raiva - Castelo de Paiva Tel. 66136 Fab. de Papel e Cartão de Foz do Ribeira					1 F	
49	NOEMIO FERNANDES LOPES,LDA. R. Ferreira Cardoso, 172 r/c - Porto Tel. 566169 – Lever					1 F	
50	OLIVEIRA SANTOS & IRMÃO,LDA. Paços de Brandão Tel. 9642113			1 F			
51	PAIS & CUNHA,LDA. Paços de Brandão Tel. 9642099					1 F	
52	PAPELEIRA DE S.PAIO DE OLEIROS,LDA. S. Paio de Oleiros Tel. 964263?			1 F			
53	PEDROSA & BATISTA,LDA. Entre-Águas - Sandim - Vila Nova de Gaia Tel. 9650039					1 F	
54	PEREIRAS & BARBOSA,LDA. Hortas-Lever - Vila Nova de Gaia Tel. 9651036					1 F	
55 R	PEXTRAFIL-PAPELEIRAS DE EXTRA FINOS,SARL Apartado 51 - Viseu Tel. 93126 - Esc,Lisboa: 326407	1 F	3 M				
56	PORFIRIO SAMPAIO,LDA. Arada - Apartado 4 - 3882 Ovar Cedex Tel. 72415			1 F			
	RAMIRO FERREIRA,LDA. Monte Meão - Sanguedo - Vila da Feira Tel. 969030					1 F	
58	SOCIEDADE TRANSFORMADORA DE PAPEIS VOUGA,LDA. S. Paio de Oleiros Tel. 9642497/8/9 e 9642826	1 F	3 M				
	SOCIEDADE TRANSFORMADORA DE PAPEIS VOUGA,LDA S.Paio de Oleiros					1 F	
59 R	TERRA & IRMÃO,LDA. S.Guião - Souto - Vila da feira Tel. 32771					1 F	
R	VALENTIM FRANCISCO DO COUTO,LDA. Tondela Tel. 82312			1 F			
R	VIUVA MACIEIRA & FILHOS Rua da Madalena, 18 - 19 - Lisboa-2 Tel. 871121	1 F					
R	FAB. de PAPEL DE ROSA PEIXOTO Fareja - Fafe Tel. 49701					1 F	

63 – Oscar Pinto Ferreira e Nahores – B...

FAPEL

EMPRESAS ASSOCIADAS

1 — CASA VELUDO DE JOSÉ BRANDÃO VELUDO & C.ª, LDA.
- F. — Avenida da Boavista, 2245 — Porto
- E. — Avenida da Boavista, 2245 — Porto
- A. — Sr. António Veludo

2 — COMPANHIA DE CARTÕES DO CAVADO, S. A. R. L.
- F. — Ruães — Braga
- E. — Ruães — Braga
- A. — Sr. Eng.º José Manuel Amorim Ferreira

3 — COMPANHIA DO PAPEL DO MARCO, S. A. R. L.
- F. — Marco de Canaveses
- E. — Rua Filipe Folque, 5, 4.º - Dt.º — Lisboa
- A. — Sr. Eng.º Mário Victor Gonçalves

4 — COMPANHIA DO PAPEL DE PORTO DE CAVALEIROS, S. A. R. L.
- F. — Porto de Cavaleiros — Tomar
- E. — Rua Rosa Araújo, 49-B, 1.º — Lisboa
- A. — Sr. Mário de Oliveira ou Dr. Júlio Dias das Neves

5 — COMPANHIA DO PAPEL DO PRADO, S. A. R. L.
- F. — Lousã e Tomar
- E. — Rua do Telhal, 12 — Lisboa
- A. — Sr. Eng.º Manuel Firmino da Costa

6 — FABRICA DE PAPEL DO ALMONDA, LDA.
- F. — Renova — Torres Novas
- E. — Renova — Torres Novas
- A. — Sr. Eng.º Armando Pires Tavares ou Sr. João Teixeira Mendes

7 — FAPAJAL — FABRICA DE PAPEL DO TOJAL, LDA.
- F. — S. Julião do Tojal — Loures
- E. — S. Julião do Tojal — Loures
- A. — Srs. Fernando Ferreira, Eng.º Ruy Burmester e Alfredo Torres

8 — INAPA — INDÚSTRIA NACIONAL DE PAPÉIS, S. A. R. L.
- F. — Mitrena — Setúbal
- E. — Av. Duque de Loulé, 83, 4.º — Lisboa
- A. — Sr. Dr. Vasco de Quevedo Pessanha ou Sr. Eng.º José Avillez

9 — INDUSTRIAS JOAQUIM FRANCISCO DO COUTO & F.ºs, S. A. R. L.
- F. — Azenha — Sandim — Vila Nova de Gaia
- E. — S. Paio de Oleiros
- A. — Sr. Joaquim Francisco do Couto

10 — MANUEL JOSÉ DE OLIVEIRA & C.ª
- F. — Ponte Redonda — Silvalde — Espinho
- E. — Paços de Brandão
- A. — Sr. Joaquim Loureiro ou Sr. Américo Loureiro

11 — MATOS & RODRIGUES, LDA.
- F. — Pego — S. Paio de Oleiros
- E. — Pego — S. Paio de Oleiros
- A. — Sr. António Rodrigues

12 — MATRENA — SOCIEDADE INDUSTRIAL DE PAPÉIS, S. A. R. L.
- F. — Matrena — Tomar
- E. — Av. Fontes Pereira de Melo, 17, 5.º — Lisboa
- A. — Sr. Eng.º Vasco de Quevedo Pessanha ou Sr. Dr. [illegible] da Silva

13 — UNOR — UNIÃO DO COMÉRCIO EXPORTADOR, LDA.
- F. — [illegible] — Loures
- E. — [illegible] — Loures
- A. — Sr. Eng.º [illegible] Martins

14. MISA

Independente

Fábricas de Papel e Cartão não associad

1 - Orlando Pais Lopes
Retorta - Sandim - Vª Nª de Gaia

2 - Fabrica de Papel e Cartão do Douro
Quebrantoẽs - 4400 Vª Nª de Gaia

3 - Eugénio Guedes Barbosa
Hortas - Lever - Vª Nª de Gaia

4 - António Joaquim Pinto e Madeira
Mourão - Cortegaça - Ovar

5 - Irmãos Ferreira Barbosa
Lombão - Lever - Vª Nª de Gaia

6 - Viuva de Luciano Rodrigues da Costa
Souto - Vila da Feira

- Fabrica de Papel Aradense
Arada - Ovar

- Fabrica de Papel do Casal de
Irmãos de Francisco e Antonio Assis
Casal - Ovar

(contin.)

9 - Ramiro Domingos da Silva ✓

Madria — Ovar

10 - Moreira e Gonçalves, Lda ✓

Folgoso - Raiva - Cº de Paiva

11 - Fábrica de Papel de José de Azevedo Pereira ✓

Penices - Gondifelos

Vº Nº de Famalicão

12 - Fábrica de papel do Caima (I.N.I.C.P.)

13 - COFAPEL - Taveiro ✓

14 - Fábrica de Papel de Fontes, Lda

Fontes - Serzedo - Carvalhais - Porto

RESTRUCTURING PROJECT - SMALL PAPER MILLS

Situation on 26 th May 1982

1 - General Summary

Mills visited:		
Associted	40	
Not associated	12	52
Mills to be visited		19
Total of mills		71

(Remark: The data compiled in the atached tables include 58 mills; 52 of these are the mills visited, the remaining have been taken up through enquiries)

2 - Summary of Data Compiled (58 mills)

2.1 Total production of paper and paper board - (1980)	t	74 441
2.2 Total of fiber raw materials	t	84 715

2.2 Drying

2.2.1 Open air drying		
Paper mills	11	
Board mills	18	29
2.2.2 Mixed drying (open air and steam)		
Paper and board mills	1	
Board mills	3	4
2.2.3 Steam drying and others		
Paper mills	15	
Paper and board mills	3	
Board mills	7	25
Total		58

2.3 Break down by products

2.3.1 Cheap (solid) board mills

Drying:			
- Open air	18		
- Steam	4		
- Open air and steam	3		
- Thermofluids	1		26
Trimmed width, max		mm	3 100
min		mm	850
Production (1980)			
- Max,		t	6 000
- Min.		t	60
- Average		t	728
Total		t	18 949
Raw materials			
- Waste paper		t	20 185
Driving power			
- Electric			15
- Electric plus water			8
- Thermic and water			3

2.3.2 Wrapping and packaging paper Mills

Drying		
- Open air	11	
- Steam	11	22

Trimed width		
- Min	mm	1 000
- Max	mm	4 000
Production - 1980		
- Max	t	10 000
- Min	t	60
- Average	t	1 542
Total 1980 (mills visited)	t	33 923
Raw materials		
Waste paper		
- selected	t	30 862
- not selected	t	9 877
		40 973
Drying power		
Water power drive		1
El. power drive		20
Water and thermic p. drive		1
		22

2.3.3 Wrapping / packaging and ch[illegible] board mills

Drying		
- Open air and steam	1	
- Steam	3	4

Trimmed width		
- Min	mm	1 600
- Max	mm	3 200
Production. 1980		
- Min	t	140
- Max	t	1 600
- Average	t	1 120
Raw materai		
Pulp - softwood	t	25
Pulp - hardwood	t	50
Waste paper	t	4 789
Driving power		
El. power drive		3
Water/el.power drive		1
		4

2.3.4 Wrapping / Packaging / Other Paper Mills

Driving		
- Steam		2
Trimmed width		
- Min	mm	1 440
- Max	mm	1 750
Production - 1980		
- Wrapping papers	t	89
- Tissues	t	830
- Writing	t	1 264
Raw materials - 1980		
Pulp - softwood	t	477
Pulp - hardwood	t	1 515
Waste paper selected	t	1 848
Driving power		
El.power drive		2

- Wrapping/packaging and writing / printing paper mills

Drying		
- Steam		2
Trimmed width		
- Min	mm	1 850
- Max	mm	2 350
Production - 1980		
- Min		1 209
- Max		5 915
Total 1980		
Krafts		5 915
Writings		1 209
		7 124
Raw Materials		
- Pulp - softwood		4 459
- Pulp - hardwood		2 550
- Waste paper		125

Driving power : electric

- Special board and other board mills

Drying		
Steam		1
Thermofluid		1
		2
Trimmed width		
- Min	mm	1 800
- Max	mm	2 300
Production - 1980		
- Special cheap (gray) board	t	1 836
- Special board	t	2 740
- Packaging board	t	3 385
	t	7 961
Raw material		
Pulp, softwood		729
hardwood		623
Waste paper		6 149

Driving Power: electric

Instituto dos Produtos Florestais

PARQUE INDUSTRIAL DO PAPEL

1975

P = paper
b = board

PARQUE INDUSTRIAL DO PAPEL

Distrito: AVEIRO

Concelho: Aveiro

P — Companhia Portuguesa de Celulose, S. A. R. L.
Localidade: Cacia

b — Custódio Vieira de Andrade e Sousa
Localidade: Balaíde — Fermedo — Cabeçais — Arrifana

— Fábrica de Papel Aveirense, Lda.
Localidade: Quinta de S. Simão — Esgueira

Concelho: Castelo de Paiva

Closed José de Oliveira
Localidade: Balsa — Sardoura *There is another board mill already visited*

b — Orlando Pereira & Joaquim Mendes Moreira
Localidade: Laceiras — Raiva

Concelho: Espinho

— Fábrica de Papel de Parâmos, Lda.
Localidade: Parâmos

— José Manuel de Oliveira & C.ª
Localidade: Ponte Redonda — Silvalde

Concelho: Feira

— Afonso de Sá Marques
Localidade: Cascão — Louredo

— Ângelo Dias da Silva
Localidade: Azenha — Paços de Brandão
(2 unidades)

b — Fábrica de Papel da Lapa, Lda.
Localidade: Lugar da Lapa — S. Paio de Oleiros

— Manuel de Oliveira Leite (Herdeiros)
Localidade: S. Paio de Oleiros — Vale de Vouga

b — A Papeleira Brandoense
António Marques
Localidade: Sobreira — Paços de Brandão

Closed Domingos Terra, Sucrs.
Localidade: Gesteira

p — Domingos Valente da Silva Terra
Localidade: S. Gião — Souto

Closed Edmundo de Almeida Carvalho
Localidade: Paços de Brandão

— Fábrica de Papel «A Conquistadora», Lda.
Localidade: Lugar da Igreja — Paços de Brandão
(2 unidades)

p — Fábrica de Papel e Cartão da Zarrinha, Lda.
Localidade: Mata — Riomeão

Closed Fábrica de Papel da Laranjeira, Lda.
Localidade: Laranjeira — Paços de Brandão

Closed Francisco Ferreira de Barros
Localidade: Póvoa de Baixo — Paços de Brandão

— Fábrica de Papel da Travanca
Gomes Inácio & C.ª
Localidade: Lugar da Igreja — Travanca

p — Henrique de Oliveira e Sousa, Filhos, Lda.
Localidade: Mata — Lamas — Paços de Brandão

b — Indústrias Joaquim Francisco do Couto & Filhos, Lda.
Localidade: Gesteira — Souto

— Joaquim Pereira Alves
Localidade: Monte de Cima — Paços de Brandão

— Joaquim Rodrigues da Costa, Filhos, Lda.
Localidade: Paços de Brandão

— Matos & Rodrigues, Lda.
Localidade: Pego — S. Paio de Oleiros

p — José Gomes Pais
Localidade: Paços de Brandão

p — Luís de Oliveira Santos
Localidade: Riomaior — Paços de Brandão

b — Fábrica de Alviada
Manuel Alves dos Santos
Localidade: Várzea — Canedo — Fiães

p — Manuel Francisco da Costa
Localidade: Candal — Paços de Brandão

— Manuel José de Oliveira & C.ª
Localidade: Lugar da Praça — Paços de Brandão

p — Manuel Marques Pinto
Localidade: Paços de Brandão

p — Manuel Rodrigues de Amorim & Filho
Localidade: Engenho de S. Jorge

p — Oliveira Santos & Irmão, Lda.
Localidade: Riomaior — Paços de Brandão

— Papeleira de S. Paio de Oleiros, Lda.
Localidade: Argoncilhe

b — Pinto, Santos & Ferreira, Lda.
(Ramiro Ferreira, Lda.)
Localidade: Monte Meão — Sanguedo

— Sociedade Transformadora de Papéis Vouga, Lda.
Localidade: Lugar da Bessada — Nogueira da Regedoura e

Distrito: COIMBRA

Concelho: Coimbra

P — Pais, Pinto & Santos, Lda. *(computer)*
Localidade: Taveiro

Concelho Góis

P — Companhia do Papel de Góis, S. A. R. L.
Localidade: Ponte de Sotam

Concelho: Lousã

P — Companhia de Papel do Prado, S. A. R. L.
Localidade: Lousã

— Fábrica de Papel de Serpins
V.ª Macieira & Filhos
Localidade: Porto do Boque — Serpins

Distrito: Évora

Concelho: Mourão

P — Celuloses do Guadiana, S. A. R. L.
Localidade: Mourão

Distrito: LISBOA

Concelho: Alenquer

p — Fábrica de Cartão e Papel da Ota, Lda.
Localidade: Alenquer

Concelho: Loures

— Fábrica de Papel de S. Julião, Lda.
Localidade: Casal Valbom — S. Julião do Tojal

P — Fapajal — Fábrica de Papel do Tojal, Lda.
Localidade: S. Julião do Tojal

— Ucor — União do Comércio Exportador, Lda.
Localidade: Póvoa de Santo Adrião — Frielas

Distrito: PORTO

Concelho: Marco de Canavezes

p — Companhia do Papel do Marco, S. A. R. L.
Localidade: Marco de Canavezes

Concelho: Penafiel

b — Manuel Martinho de Sá Martins
Localidade: Lugar da Ermida — Irivo

Concelho: Porto

— Casa Veludo de José Brandão Veludo & C.ª, Lda.
Localidade: Avenida da Boavista, 2245

Concelho: Vila do Conde

p — Fábrica de Papel do Ave, Lda.
Localidade: Fornelo

Concelho: Vila Nova de Gaia

Burned in 1981 Aires Gomes Ferreira
Localidade: Grijó

b — Alexandrino Pais da Silva
Localidade: Sá — Sandim

— A Papeleira Brandoense
António Marques
Localidade: Febros — Avintes

b — Bernardino Gomes Ferreira
Localidade: Cabreira — Grijó

— Germana Moura Guedes, Sucr.ª de José Guedes Barbosa
Localidade: Crestuma

b — Hilário de Sá Marques
Localidade: Rocha — Sandim

p — Indústrias Joaquim Francisco do Couto & Filhos, S. A. R. L.
Localidades: Sandim e Azenha — Sandim
(2 unidades)

b — Fábrica de Papel da Marinha
Joaquim António Ramos Alves de Sousa
Localidade: S. Félix da Marinha — Praia da Granja

— Joaquim Coelho dos Santos
Localidade: Lugar da Telha — Sandim

Closed — José Tavares de Moura
Localidade: Lombão — Lever

b — Luís de Oliveira Santos
Localidade: Granja — S. Félix da Marinha

b — M. Nunes de Oliveira Pedrosa
Localidade: Crasto — Sandim

— N. Fernandes Lopes
Localidade: Crestuma

b — Orlando Paes Lopes
Fábrica de Cartão e Papel da Retorta
Localidade: Retorta — Sandim

p — Papeleira de S. Paio de Oleiros, Lda.
Localidade: Quinta do Penedo — Serzedo

(... unidades)
— Fábrica de Papel do Engenho-Velho
Viúva de José Correia de Castro
Localidade: Engenho-Velho — S. Paio de Oleiros

Concelho: Ílhavo

— Bagão Félix & Irmão, Lda.
Localidade: Gafanha do Áquem

Concelho: Oliveira de Azeméis

— Fábrica de Papel do Caima
Localidade: Palmaz — Pinheiro da Bemposta
— Sociedade Transformadora de Papeis Vouga, Lda.
Localidade: Couto de Cucujães

Concelho: Ovar

p — Fábrica de Papel do Carril, Lda.
Localidade: R. do Carril
p — Fábrica de Papel e Pap. Aradense de Adriano Sá Ferreira dos Reis
Localidade: Alcapedrinha — Arada
p — Fapovar — Fábrica de Papel de Ovar, Lda.
Localidade: Lugar do Açude — Ponte Reada
p — Ferreira & Jorge, Lda.
Localidade: Murteira — Arada
— Maria Pinto de Jesus
Localidade: Campo Grande — Esmoriz
p — Ramiro Domingues da Silva
Localidade: Bajunco
b — António Joaquim Pinto & Filhos
Localidade: Mourão — Cortegaça
— Irmãos Marques, Lda.
Localidade: Lugar de Matosinhos de Baixo — Esmoriz
p — José António Marques de Oliveira & C.ª
Localidade: Gondozende — Esmoriz

Concelho: S. João da Madeira

b — António Cláudio
Localidade: S. João da Madeira

Distrito: BRAGA

Concelho: Barcelos

p — Joaquim Mariz de Carvalho
Localidade: Barcelinhos
b — Fábrica de Cartão e Papel do Rio Cávado
Viúva de Domingos Coelho da Rocha
Localidade: Pontes — S. Veríssimo

Concelho: Braga

b — Companhia de Cartões do Cávado, S. A. R. L.
Localidade: Ruães
— Companhia Fabril do Cávado, S. A. R. L.
Localidade: Ruães

Concelho: Fafe

b — Francisco Rodrigues Alves
Localidade: Cepães
b+p — Indústrias Joaquim Francisco do Couto & Filhos, S. A. R. L.
Localidade: Cavadas

Concelho: Vila Nova de Famalicão

b — José Azevedo Pereira
Localidade: Gondifelos

— Pedrosa & Baptista, Lda.
Localidade: Entre-Águas — Sandim
— Pereiras & Barbosa, Lda.
Localidade: Hortas — Lever
Sá, Irmão & Cunha
Localidade: Lever

Distrito: SANTARÉM

Concelho: Chamusca

p — Fábrica de Papel de Santa Maria de Ulme
José Joaquim Pedrosa Rosa Rodrigues
Localidade: Chamusca

Concelho: Salvaterra de Magos

— Ormca — Organização Industrial de Cartões, S. A. R. L.
Localidade: Salvaterra de Magos

Concelho: Tomar

P — Companhia do Papel de Porto de Cavaleiros, S. A. R. L.
Localidade: Porto de Cavaleiros
— Companhia do Papel do Prado, S. A. R. L.
Localidade: Prado
P — Matrena — Sociedade Industrial de Papéis, S. A. R. L.
Localidade: Matrena

Concelho: Torres Novas

— Abílio Alexandre Inácio
Localidade: Ribeira Branca
P — Fábrica do Papel do Almonda
Localidade: Renova

Distrito: SETÚBAL

Concelho: Setúbal

P — Inapa — Indústria Nacional de Papéis, S. A. R. L.
Localidade: Mitrena
P — Socel — Sociedade Industrial de Celuloses, S. A. R. L.
Localidade: Mitrena

Distrito: VIANA DO CASTELO

Concelho: Viana do Castelo

P&kl — Celnorte — Celuloses do Norte, S. A. R. L.
Localidade: Deocriste
P — Fábrica de Papel e Cartão de Perre, Lda.
Domingos José Afonso, Sucrs., Lda.
Localidade: Madorra — Perre

Distrito: VISEU PCKTC

Concelho: Cinfães

b — Fábrica de Papel e Cartão Douro, Lda.
Localidade: Lugar de Quebrantões — Oliveira do Douro

Concelho: Tondela

— Fábrica de Papel do Dinha
José Gonçalves Esteves, Lda.
— Localidade: Covelo de Tonda
Valentim Francisco do Couto, Lda.
Localidade: Tondela

Concelho: Viseu

P — Pextrafil — Papeleiras de Extra-Finos, S. A. R. L.
Localidade: Vila Meão — Povolide

PORTUGAL - 1981

PRODUÇÃO DE PAPEL

	PAPEL	% 81:80	ANIPC	% 81:80	PORTUCEL	TOTAIS	% 1981:80
critas e Impressões	81.438	+3	28.814	+25	-	110.252	+8 %
Embalagem	45.884	-	71.552	+19	244.258 (1)	361.694	+5%
Cartolinas e Cartões	35.828	-	24.655	+24	-	60.483	+17%
Uso doméstico	24.924	+1	-		-	24.924	-3%
Papéis diversos	9.159	+5	-		-	9.159	+5%
TOTAIS	197.233	-4	125.021	+32	244.258 +3%	566.512	+7%

(1) Inc. 1.000 ton. de Setúbal

Fonte: Informação das três associações respectivas.

PRODUÇÃO 1980

1981 : 1980

	FAPEL	ANIPC	PORTUCEL	TOTAIS
Es itas e Impressão	78.859	23.000	-	101.859
mbalagem	46.839	60.000	236.580	343.419
artolinas e Cartões	40.452	11.000	-	51.452
so doméstico	24.666	1.000	-	25.666
péis diversos	8.748	-	-	8.748
TOTAIS	199.564	95.000	236.580	531.144

nte: Informação das 3 associações respectivas.

Impe + Expe Zahlen noch nicht offiziell bestätigt. 27.9.82 PPI übernimmt aber.

Europe

FPJ - July 82

PORTUGAL

Population: 9,905,000. **Total land area** (km²): 89,000.
Total forest (km²): 30,000. **Commercial forest** (km²): 28,000.
Per capita consumption of paper and board: 51 kg.

Number of paper and board mills: 108. **Number of pulp mills:** 8. (Number of pulp mills by type: sulfate 5; sulfite 2; soda 1.)
Paper & board capacity: 650,000 tons. **Pulp capacity:** 1,000,000 tons.

(1,000 tons)

	Production		Imports		Exports	
PAPER AND BOARD	1980	1981	1980	1981	1980	1981
Newsprint	0	0	37	40	0	0
Printings/writings	101	110	2	4	15	21
Kraftliner	155	158	0	0	113	106
Other wrapping papers	189	204	1	2	0	0
Tissue	29	30	0	0	1	1
Other paper	41	44	0	0	0	0
Board	20	23	24	30	18	16
Total paper & board	535	569	64	76	147	144
PULP						
Bleached sulfate	467	498	21	19	315	344
Unbleached sulfate	275	267	0	1	40	36
Bleached sulfite	89	88	3	2	79	75
Unbleached sulfite	1	0	0	1	0	0
Mechanical	0	0	6	1	0	0
Other	33	42	0	0	0	0
Total pulp	865	895	30	24	434	455

	Recovery		Consumption		Imports		Exports	
	1980	1981	1980	1981	1980	1981	1980	1981
Wastepaper	175	185	na	190	0	7	7	2

Installed Capacities of paper and board

Situation - End 1982

		APP. Consumpl. 1981 ...
Printing + writing	130 500 to	93000
Wrapping paper	431 700 to	
Board	71 600 to	37000
X Hygenic + Sanitary	76000 to	29000
Others	10800 to	
Total	720600 to	501000 to

X Installed capacities of ~~paper and board~~ Hygenic + Sanitary paper

Company	to 1981	to 1982
Renova	20000	41000
Fapajal	10 000	10000
Nisa		10000
Petrafil	10 000	10 000
Veludo	3500	3500
Oliveiras	1500	1500
Total	55000 to	76000 to

~~[illegible]~~

Source - D.I.T

APPARENT Consumption of paper and board

	1980 to	1981 to	
Newsprint + Magazine	36000	40000	
Writing + Printing	92000	93000	
Hygiene + Sanitary	26000	29000	
Others	61000	44000	System of statist. differs from 19~~80~~ System of stat. 1980
Boxboard + board	43000	37000	
Kraft sack paper	45000		
Kraftliner	32000	52000	
Fluting	64000		
Other wrapping paper	53000	206000	
Total	452000 to	501000 to	+ 11%

Unsorted waste paper consumption 1980

Total ≈ 135000 to / Fraglich?

Sales-Statistics - FAPEL only - in tons

period: 1. January - 30. June 1982 and 1981

	1982			1981		
	total	domestic	Exports	total	domestic	exports
Wrapping	12777	12574	203	9217	9021	196
Writing	17548	13950	3598	13727	10810	2917
Printing	29023	19537	9486	24198	17352	6846
Box board and board	19151	12458	6693	19321	12156	7156
Others	5796	5652	144	10701	10485	216
Total	84295	64171	20124	77164	59824	17331

Remarks:

In the first 6 months 1982 compared with the same period 1981 the total sales in tons increased to +9%.

total domestic sales +7%.

total Export +16%.

The statistics and sales statistics of FAPEL show that the domestic market is growing. Especially printing papers have an increase on all markets. Box board and board are stagnating.

It is difficult to understand why ANICP in its statistics of 1981 can expect of enormous growth in all grades of paper and board. ? New capacities ?

According to statistics Portugal has overcapacity in installed and production capacities on all grades of paper and board. The portuguese paper and board industry has to export to busy the capital intensive machinery to survive.

REVIEW MEETING

STUDY OF REORGANIZATION AND DEVELOPMENT

OF THE PULP, PAPER AND CONVERTING INDUSTRY SECTORS

IN PORTUGAL

DATE : 22-09-82

PLACE : Rua Horta Seca, 14 Lisbon, Portugal

PARTICIPANTS

FAO	Mr. B. Kyrklund
	Mr. E. Jones
	Mr. [illegible]tner
UNIDO	Mr. M. Judt
	Mr. Hoesch
PORTUGAL	
I.P.F.	Mr. M. P. Ferreirinha
G.C.P.F. - B.M	Mr. Rogério Freire
D.G.T.	Mrs.Celeste Agaton
GT	Mrs.Ana Maria Godinho
DGI	Mr. N. Ramos
Work Group	Mr. S. Marques
	Mrs.Paula Lecoq

List of Participant Departments

IPF	Instituto Produtos Florestais	
	Mr. M. P. Ferreirinha - President	
GCPF-BM	Grupo Coordenador do Projecto Florestal-Banco Mundial	
	Mr. R. Freire - Director Coordenador	
CGEE	Gabinete para a Cooperação Económica Externa	
DGT	Direcção Geral do Tesouro	
DGI	Direcção Geral das Indústrias	
	Mr. Soares Gomes - Director Geral	