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FORESTRY PLANNING AND DEVELOPMENT PROJECT

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CONSULTANCY REPORT

A SURVEY OF PULP AND PAPER INDUSTRY
IN PAKISTAN

By

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**for the
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FORESTRY PLANNING AND DEVELOPMENT PROJECT
GOVERNMENT OF PAKISTAN-USAID

CURRENCY EQUIVALENT

U.S. dollar (\$)	=Pakistan Rupees (PRs) 21.95
Pakistan rupee (PR)	=US \$ 0.050
PRs 1 million (m)	=US \$ 45,558

WEIGHTS AND MEASURES

1 acre (ac)	=0.405 hectares (ha)
1 hectare (ha)	=2.470 acres
1 mile	=1.609 Kilometer (Km)
1 Kilometer (Km)	=0.621 mile
1 foot	=0.305 meter (m)
1 meter	=3.048 feet
1 Cubic foot (c.ft)	=0.029 cubic meter (m ³)
1 Cubic meter (m ³)	=35.316 c.ft.
1 litre	=0.264 US gallon
1 US gallon	=3.790 litres
1 cusec	=1 cubic foot of water flowing in 1 second =646,000 gallons of water per day.

ABBREVIATIONS

AD	=Air dry
ADT	=Air dry ton
ADW	=Air dry weight
BMR	=Balancing modernisation & reconstruction
cm	=centimeter

CTMP	=Chemi-Thermo-Mechanical Pulp
DFI	=Development Finance Institution
Divn	=Division
D.I. Khan	=Dera Ismail Khan (Name of a place)
ECNEC	=Executive Committee of the National Economic Council
FAO	=Food and Agriculture Organisation
FBS	=Federal Bureau of Statistics
GDP	=Gross Domestic Product
GOP	=Government of Pakistan
Kg.	=Kilogram
Ltd	=Limited
mm	=millimeter
NDFC	=National Development Finance Corporation
NWFP	=North West Frontier Province
ODT	=Oven dry weight
PFI	=Pakistan Forest Institute
PIDC	=Pakistan Industrial Development Corporation
PPMBA	=Pakistan Pulp, Paper & Board Makers Association
T/D or TPD	=Tons per day

NAMES OF TREES

<u>LOCAL NAMES</u>	<u>BOTANICAL NAMES</u>
Babul / Kikar	Acacia nilotica
Chir or chir pine	Pinus roxburghii
Eucalyptus or safeda	Eucalyptus spp: mainly Eucalyptus camaldulensis

Kandi or jand	Prosopis cinirera
Lai	Taniarix aphylla
Poplar & Hybrid poplar	Populus euphratica Populus euro-american & Populus deltoides etc.

GLOSSARY

Pulp wood	-wood used for pulp manufacture
Round wood	-Unprocessed logs in round form

OTHER EXPLANATIONS

Fiscal year (Government of Pakistan)= July 1 to June 30
Ton, wherever used, means metric ton.

S U M M A R Y

The paper industry in Pakistan continues to pass through its state of infancy. There was a good start with the establishment of Pakistan in 1947, but despite favourable demand, the pace of development has been far too slow. In fact, if we look back at the past twenty years, it will be found that not only the growth in this industry remained frozen, but the few mills, which had been established prior to 1970, have shown a poor performance, with the reduced rate of production.

One redeeming feature has been that 3 mills, two of which had been closed for last about 15 years have started production during 1990. Again during this year 1990, one big mill (Century Paper & Board Mills) has been installed and has started production; but the biggest mill (Pakistan Paper Corporation) is under liquidation and has been closed.

The Consultants have identified 46 pulp, paper and paper board industries/mills in the country. Of these 34 mills are operative, 8 are in planning or installation stage and 4 are currently closed. 16 mills have been surveyed. The analysis of the survey reports show all the mills make their own pulp except the wood pulp, which is all imported. The quantities of raw materials used during the year 1989 are:

- Wheat straw	229,900	tons
- Bagasse	63,800	tons
- Grasses	42,300	tons
- Waste cotton	7,600	tons
- Waste paper		
- Locally Collected	126,000	tons
- Imported	16,000	tons
- Wood pulp (all imported)	28,000	tons

The cost of making pulp from wheat straw, bagasse & grasses works out to Rs. 8000 to 10,000 per ton against the imported cost of wood pulp of Rs. 17000 to 29,000 per ton.

The utilization of the pulp manufacturing capacity is 57.0% & that of paper & board production 51.4% of the installed capacity.

Of the 16 mills surveyed, 9 have shown interest in making their own wood pulp providing continuous wood supply at a reasonable price of Rs.800 to Rs. 1200 per air dry ton of wood is assured.

The Consultants have estimated the production of paper & paper board in the country during the year 1988-89 at 229,000 tons, which gives a capacity utilization of 61.1%. The import of paper & board during the same year has been estimated at 262,000 tons giving a ratio of local production viz-a-viz imports at 47:53.

In addition to the import of 262,000 tons of paper & paper board, the Country imported 58,000 tons of pulp. The total imports of pulp, paper & paper board cost the country more than Rs. 3 billion (1988-89).

At present the daily import of wood pulp works out to 130 tons. If all types of paper & paper board imported could also be produced within the country, then the additional requirement of wood pulp would be about 200 tons per day. Thus for cutting down all imports of pulp, paper & paper board, 330 tons of pulp per day is required to be produced within the country.

On a special request by the Inspector General of Forest (Project Manager), Government of Pakistan, Forestry and Development Project, USAID, Volume II, which deals with the "Development of Forestry" for production of pulp has been added to the Study report.

Thus the study is in two volumes and three parts as under:-

Volume I-

Part I- Main Report.

Part II- Annexures.

Volume II- Forestry Development.

CHAPTER - 1

INTRODUCTION

1.1 History of Paper

Wood as such (not in paper form) is perhaps one of the oldest writing material. It was often covered with some other material like wax or mud to make writing or rather engraving easy.

The bark of trees (Himalyan birch) was used as a durable writing material in northern part of Pakistan at the time of Alexander's invasion. The budhist monks of that period used it and its continued use for a few centuries is on record.

In the Indus Valley, copper plates found use as a writing material much earlier, some 5,000 years back. Title deeds were often written on copper.

Metals like gold and silver, as well, were used for the purpose in some other ancient civilisations.

The leaves of the palm trees were used as writing material in ancient India and some other countries of South-East Asia. The leaves were boiled and then dried, thus making them crisp like paper.

In the 2nd and 3rd century B.C., the Chinese widely used bamboo canes for vertical writing. Bamboo split in strips also found favour with the Chinese in the same period. Another significant material in China was silk, used more than 2,000 years back. Cloth was used in the same period as writing material in some other countries of Asia.

Bones were another material used in China as well as in some parts of Asia and Africa for writing.

A more widely used material in the ancient world to write on, was parchment as well as animal skin.

The Greeks and Romans used waxed tablets as writing material. They were used in the Near East around 800 B.C.

The best known material of ancient times, however, is that produced by Egypt and some other countries of the Mediterranean called "Papyrus". It was made from the papyrus plant, perhaps grown widely in the region at that time. It was the most popular writing material of the region for about 4,000 years, until the dawn of the Christian era. The inner stem of the plant was cut to piece, beaten and dried. Papyrus thus could be made easily and proved as the most suitable writing material of ancient.

Paper as we know it now, though invented about 1900 years back, remained a guarded secret with the Chinese for more than 600 years. Then in 751 A.D. a Chinese attack on Samarkand was repulsed by its Muslim Governor. Among the thousands of Chinese prisoners taken, quite a few knew the art of paper-making. Baghdad, Damascus, Tripoli and Cairo thus started manufacturing paper from rags and some other such materials.

Europe learnt the art of paper-making only at the end of 15th century when Muslims lost Spain and the European could get expertise from the workers in Spain.

With the rise of Europe in education and economics power, paper became a much sought after material in its cultural advancement from early 19th century.

Wood was introduced as the main raw material in mass paper production at that time. Science and technology also started taking deep roots in most of the industrial processes in Europe at the same time. Innovations came fast in paper-making.

For the production of fiber from wood, the first step, after removing the bark was the use of abrasive wheels of fine quality that reduced tree trunks to tiny bits of wood. Except for more excellence, almost the same process still prevails.

In early last century when wood pulp was substituted in place of rags and linen to produce paper in abundance, civilisation started taking leaps.

If one comes to think of it, paper seems to be the most important invention after wheel in the broad sweep of history.

1.2 Paper Making Process

Paper, in the modern sense, is an aqueous deposit of any vegetable fiber in the form of sheets. The word is derived from "Papyrus", which preceded it as a writing material and was used by the Egyptians.

Modern technology can now produce by mechanical or chemical means or by both combined, various types of paper for different needs. Surprisingly, two aspects in paper-making have not changed since the mechanical process using wood as the raw material was invented at the beginning of the nineteenth century. One is the raw material, that is, wood from the trees. The other is the complexion of the basic process itself; suspending wood fibers in water, draining the water through a sieve, and then drying the trapped fibers as the end product paper sheet.

Science found other than mechanical means to further breakdown the fibers in the wood which are bound by lignins (a type of polymers). Chemical process was invented to dissolve the lignins. The tiny wood bits in chemical solution undergo that change.

Finer quality paper is, therefore, usually made from chemical processes. Yet another stage in preparing the pulp, is peeling off the outer walls of the fiber to a certain extent to increase bonding between fibers, thus making the paper strong. It is some sort of a beater or a high speed rotating machine that does the trick. The latter, a preferred method, has attained high sophistication with the advances in technology.

In fact, the process basically remains the same as when paper was invented by Tai Lun in China in 105 A.D., except that linen rags used by the Chinese, wood from trees is now being used as the raw material. Only details have changed and more sophistication in machinery has come in.

1.3 Chemical/Semi-chemical Pulping Process

Chemical or semi-chemical pulping processes are employed. The raw material is treated with suitable chemical agents to remove soluble cementing substances-largely lignin and hemicelluloses-leaving behind a fibrous mass consisting mostly of pure cellulose. Non-woody materials are first cut into pieces 2.5-5cm long and then fed into digesters. When bagasse is the raw material, its pith is first removed before feeding it. In digesters the fibrous material is cooked with liquor at 140-170° and at 7 kg per cm² pressure. Cooking continues till pulp of desired quality is obtained. From digesters the cooked material is blown into pits where it is washed with water. After washing it is screened to remove under-cooked and other unwanted materials.

The next operation is stock preparation. It comprises the mixing of pulps of different types in varying proportions depending upon the end product to be manufactured, adding fillers (e.g., china clay, soap stone) and sizing chemical (rosin and alum), and heating of pulp to obtain desired degree of "freeness". Fillers improve surface smoothness and brightness of paper, and sizing chemicals, wet strength. From stock preparation plant, the pulp is first transferred into a large chest and then into a smaller one and diluted to obtain the desired consistency, usually between 0.5-0.7 percent. Then it is transferred to the headbox of paper machine. From there it is spread over an endless wire mesh evenly in the form of a continuous wet sheet. Water is drained from the wet sheet first by gravity, then by suction. It is then passed through a series of roller presses to reduce its thickness and moisture content, and smoothen its surface. Thereafter, it is passed through steam-heated large drying cylinders to evaporate the remaining water in the sheet. At the end of the drier section, the paper is passed over a water-cooled cylinder before it winds over a paper roll reel. The weight of one reel varies from 2 to 11 tons. The reel is then sent to the finishing room where it is cut to desired sizes and then packed.

1.4 Composition of paper

Composition of paper is known as cellulose. Cellulose contains 44.4% Carbon, 6.2% Hydrogen and 49.4% Oxygen in chemical combination.

The chemical formula of paper is $(C_6H_{10}O_5)_n$. "n" indicates the number of times this combination of Carbon, Hydrogen and Oxygen is repeated in each molecule. It varies from one type of plant to another.

Paper can be made from wood as well as non-wood fibrous materials. Pakistan's paper industry is based mainly on non-woody materials such as bagasse, grass, straw, cotton linters and waste paper. Except for cotton linters, all these yield short fiber pulp and imported long-fiber pulp has to be mixed with it to increase the strength of the end product.

1.5 Paper and Board Types

Paper and board is divided broadly in two grades viz. cultural and industrial. Paper is then classified into three distinct groups of i) writing and printing including newsprint; ii) wrapping and packing; and iii) speciality papers.

Whereas paper is a single layered sheet material, paperboard is multilayered. Moreover paper is lighter, thinner, and more flexible as compared to paperboard.

Board, which is almost entirely used for packing is produced in three main qualities, which are duplex board, corrugated board and solid board (chip board and straw board). At present, domestic manufacturing program covers common writing and printing papers, duplex board, corrugated medium and some special papers.

CHAPTER- 2

SURVEY OF PULP, PAPER & PAPER BOARD INDUSTRY

2.1 OBJECTIVES

The Inspector General of Forest (Project Manager) Forestry Planning and Development Project, Government of Pakistan, / United States Agency for Development, Islamabad invited the consultants for undertaking a nationwide survey on the use of wood in pulp and paper industry of Pakistan. The overall objective of the study is thus to assist the Government of Pakistan/USAID to carry out a nationwide survey of this industry.

2.2 BACKGROUND

The paper industry in Pakistan still continues to pass through its state of infancy. There was a good start with the establishment of the country in 1947, but despite favourable opportunities with a ready home market and increasing demand, the pace of development has been far too slow. In fact, if we look back at the past twenty years, it will be found that not only the growth in this industry remained almost frozen but the few mills which had been established prior to 1970, have shown a poor performance, with reduced rate of production.

The pattern of planning and development in early days was that paper mills were set up in former East Pakistan. For the next ten years there was no activity while during the period 1965-70, there was a big jump and new capacities for paper were created. With separation of its eastern wing at the end of 1971, Pakistan was faced with a virtual paper famine in early 1972. The annual local production of the commodity fell to even less than 25,000 metric tons against the national demand of about of about 48,000 metric tons of paper for writing as well as printing purposes.

The situation was further aggravated towards the end of 1972, when prices of pulp and paper in the international market began to soar up. At the same time, indigenous production was subjected to still greater constraints because of price controls and this resulted in the closing down of two papers mills.

For development of pulp and paper industry, as is the case with any other industry, free availability of raw material at reasonable cost, has the prime importance. Due to lack of adequate forest resources and consequent lack of pulp manufacture, Pakistan has great limitations in developing paper industry. The forest resources of pulping wood are too meagre, but alternative fibrous materials other than wood are found in substantial quantities. Possibility also exists to raise plantations of selected species of fast growing hard woods such as poplar and eucalyptus, with a harvesting cycle of 5-8 years.

The demand for paper, for educational, cultural and industrial requirements continues to grow and the wide gap between demand and supply from local sources is filled up by large scale imports, putting heavy pressure on the already limited foreign exchange resources.

The import bill on pulp, paper and paper products is increasing every year and currently (1988-89) stands at Rs.3042.351 million.

Under normal conditions, it takes a minimum of 3-4 years for bringing an average sized paper mill into operation from the time the scheme is conceived, its feasibility established, finance arranged and machinery and equipment procured and installed after building construction.

The unhappy situation of import of paper and also woodpulp will continue unless corrective measures are taken for removing the difficulties faced by the industry.

A survey of this important industry has accordingly been made to find out the gap between demand and supply and to devise the ways and means to bridge this gap so as to cut down on the heavy imports.

2.3 METHODOLOGY

2.3.1 List of mills

An exhaustive list of all the pulp, paper and paper board industry has been drawn.

2.3.2 International Pulp and Paper Directory

The International Pulp and Paper Directory, 1989 (Annexure I)

lists 30 pulp, paper and paper board industries as under:-

1. Adamjee Paper and Board Mills Limited, Nowshera (NWFP).
2. Al-Quresh Board Mills Limited, Kot Lakhpat, Lahore (Punjab)
3. Ali Paper Board Industries Limited, Lahore (Punjab).
4. Bahawalpur Board Mills Limited, Sheikhupura (Punjab).
5. Century Paper and Board Mills Limited, Kasur (Punjab).
6. Chilya Corrugated Board Mills Ltd., Chilya, Thatta (Sindh)
7. City Paper and Card Board Industry Ltd., Nooriabad (Sindh)
8. Dadabhoy Paper Mills Ltd, Karachi (Sindh)
9. Firdous Straw board Mills, Gujranwala (Punjab)
10. Flying Paper Industries Ltd, Sheikhupura.
11. Ghazi Paper Mills Ltd, Sheikhupura (Punjab)
12. Ghulam Qadir Straw Board Mills, Gujranwala (Punjab)
13. Jubilee Paper Board Mills Ltd, Gujranwala (Punjab)
14. Lasani Straw board Mills Ltd., Gujranwala (Punjab)
15. Orient Straw board Mills Ltd., Kotri (Sindh)
16. Packages Ltd., Lahore (Punjab)
17. Pakistan Board Mills Ltd., Sheikhupura (Punjab)

18. Pakistan Paper Corporation Ltd., Charsadda (NWFP)
19. Mandiali Paper Mills (A Subsidiary of Pakistan Paper Products Ltd.,) Sheikhupura (Punjab)
20. Premier Paper Mills Ltd., Sheikhupura (Punjab)
21. Punjab Board Ltd., Sheikhupura (Punjab)
22. Qadria Board Mills, Ltd., Sheikhupura (Punjab)
23. Sampak Paper & Board Mills Ltd., Sheikhupura (Punjab)
24. Sayid Paper Mills, Lahore (Punjab)
25. Security Paper Ltd., Karachi (Sindh)
26. Sethi Straw board Mills Ltd., Rahwali (Punjab)
27. Shalimar Papers Ltd., Lahore (Punjab)
28. Star Paper Mills Ltd., Kotri (Sindh)
29. Sultan Paper Board Mills Ltd., Gujranwala (Punjab)
30. Thal Paper Industries Ltd., Jauherabad (Punjab)

The management & production details of each mill are given in the Directory & hence not repeated here.

2.3.3. ASIA/PACIFIC DIRECTORY (1990)

Five other pulp paper and paper board mills are listed in the Pulp and Paper Directory of Asia/Pacific (1990) published by Martin Bayliss Marketing and Communications (MBMC), Sydney Australia (Annexure II). These are:

31. MEHAR PAPER MILLS LIMITED

1/F Saifee House, Dr. Ziauddin Ahmed Road, Karachi.

Telephones : (021)-219171

Telex : 24608

Executives : Managing Director, Mr. Mohammad Saleem Malik,

Mill Location : 10 Km. Sheikhupura-Faisalabad Road, Sheikhupura (Punjab)

Raw materials : Wheat straw and Kahi grass

Capacity : Paper and Board 21,000 ton/year

Grades : Printing and Writing paper

32. PAKLAND PAPER MILLS LIMITED

Trade Centre, A-1, Block 7/8, KCHS, Karachi (Sindh)
 Telephone : (021) 430143
 Telex : 25758
 Managing Director: Mr. Mohsin Siddiqui
 Mill Location : THATTA (SINDH)
 Mill Manager : Mr. M.M. Abdullah
 Telephone : 41
 Capacity : Paper and board-30,000 ton/year
 Raw materials : Bagasse, waste paper and imported wood pulp
 Grades : Packing papers-corrugated grades, paper board.

Mill in planning stage. Work not yet started on site.

**33. POLYPAPER AND BOARD MILLS (PVT) LIMITED
(AN ENTERPRISE OF FLYING PAPER INDUSTRIES LTD.)**

16 Bridge Colony, Lahore Cantt (Punjab)
 Telephone : (021) 371655
 Telex : 44977 FIYCO PK
 Chief Executive/ :
 Managing Director: Mr. Imran Qamar
 Director : Mr. Qamar-uz-Zaman
 Director : Mr. Kamran Khan

SHEIKHUPURA MILL

13 Km on Sheikhpura-Faisalabad Road, (Punjab)
 Telephone : 4931 - 8244
 Mill Manager : Mr. Khalid Saif
 Capacity : Paper and Board - 5000 ton/year
 Grades : Speciality Paper-household paper-creping tissue,
 industrial tissue and hygenic paper.

34. SHEIKHUPURA BOARD MILLS

37 Km. Lahore-Sheikhpura Road, Sheikhpura (Punjab)
 Raw materials : Waste paper and purchased pulp
 Capacity : Paper and board 7500 ton/year
 Grades : Printing and writing paper

2.3.4 PAKISTAN PULP, PAPER AND BOARD MAKERS ASSOCIATION

The Pakistan Pulp, Paper and Board Makers Association, Karachi in their list of 25 pulp, & paper board industries (Annexure III) have included one more mill:

35. FLYING BOARD AND PAPER Products Limited (A Subsidiary of Flying Paper Industries Ltd.) 26 Km. Lahore-Sheikhupura road, Sheikhupura (Punjab) Headquarters office. 16 Bridge Colony, Lahore Cantt.
 Telephone : 371655, 375671m 381601
 Telex : 44077 PLYCO PK

2.3.5 OTHER MILLS

There are still 3 other mills, which are not listed in the above lists. These are:

36. SINDH PAPER MILLS LIMITED (FORMER ALLIED PAPER INDUSTRIES LIMITED)

P.O. Shafiabad, Gharo District Thatta (Sindh)
 General Manager : Mr. Akbar Khan
 Mill Manager : Mr. Mirza Bashir Beg
 Capacity : 8000 ton fluiting corrugated (wrapping and packing)paper /year

The mill originally named "Allied Paper Mills Ltd.," with 10,000 ton/year of printing & writing paper started production in 1970 but was closed in 1975. It has reopened in November, 1989 after remaining closed for 14 years.

37. MASTER PAPER (PVT) LIMITED

Plot No. 35, Sector 12-B Industrial Area, North Karachi, Karachi (sindh)
 Telephones : 654035, 653714
 Chief Executive & Managing Director: Mr. Aziz Mohammad
 Director : Mr. Sohail Ahmed
 (DAWN PAPER BOARD MILLS, HYDERABAD (SINDH))
 Capacity: 5000 tons paper & board/year

2.3.6 NEW INDUSTRIES (PLANNING OR INSTALLATION STAGE)

There are new industries which are either in planning or installation stage. These are:

39. Al-Amin Limited, Sindh Industrial Trading Estate, (SITE), Kotri, District Dadu, (Sindh).
Capacity 1500 tons paper/year (in planning stage).

40. Golden Valley Paper Mills, Limited, Gadoon Amazai, (NWFP),
Capacity 36,000 tons of writing and printing paper per year.
Estimated cost of Project: Rs. 900 million (in planning stage)

41. Kamalia Paper Project, Kamalia, Distt. Sheikhpura (Punjab)
The Kamalia Paper Project costing US\$ 230 million seems to have been abandoned after a fifteen years stint that saw its rise and fall many a time. Though the project has the express approval of the Executive Committee of the National Economic Council (ECNEC) but the project did not get through and all work on the project has been stopped for last more than one year.

The project sponsored by the Punjab Industrial Development Board as a public sector enterprise was to produce 60,000 tons of newsprint per year using bagasse as the major raw material.

The reasons for abandoning the project seem to be:

- The cost of the project is too high and that the same project could be set up with US\$ 195 million (cost estimates 1989) against the cost of US\$ 230 million (cost estimates 1974) and with much better equipment;
- Given its output of 200 tons a day, it could not be a viable project and that the project would not earn a profit even after five years;
- The comparable machines all over the world were producing a maximum of 160 tons a day and the projection of 200 tons a day was on higher side;

An opinion has also been expressed that the project is best suited for private sector rather than the public sector.

42. Pakistan Paper Products, Sheikhpura (Punjab)

Printing and writing paper 3400 ton/year.

Further information not available.

43. Meher Paper Mills,
Sindh Industrial Trading Estate, Kotri
District Dadu (Sindh)
Further information is not available.

44. International Fibrous Products Limited, Khushab (Punjab)
Capacity : Paper and board 10,500 tons/year.

Further information on the mill, which is in planning stage, is not available.

45. Faruki Kraft Mills, Gujrat (Punjab)
Head Office : 316-317, Alflah Building,
Shahrah-e-Quaideen.
Tel: 302361 and 862602.
Telex : 44778 SALIM PK
Mill location : Gujrat.
Capacity : 100-150 tons of bleached kraft pulp per day.
Mill in planning stage.
Estimated cost Rs. 550 million.

46. Indus Paper Mills Limited, Rajanpura (Punjab)

The installation of establishing the mill has been announced but no further information is available.

2.3.7 SICK INDUSTRIES

Of the mills described above, the following are the sick industries and are closed:-

1. Bahawalpur Board Mills Limited, 31 Km. Lahore-Sheikhpura Road, Sheikhpura (Punjab)

Capacity : 6000 ton paper board/year
Principal categories : Kraft liner board 6000 ton/year
Grades : Boxboard - folding, Kraft board, liner board.

The mill has been closed.

2. Dawn Paper and Board Mills, Hyderabad (Sindh)

Capacity 5000 tons paper and board/year.

The mill has been closed.

3. Pakistan Paper Corporation Limited, Charsadda (NWFP).

The mill installed in the year 1971 started production in 1972. The mill with a pulp capacity of 25000 ton/year - 20,000 tons from bagasse and 5,000 tons from straw plus 15% imported long fiber pulp was designed to produce 30,000 ton/year of various grades of paper. The mill with the latest machinery was set up by financiers including Pakistan's development finance institutions and banks and with international financial assistance.

Proceedings for liquidation of the mill have been started in the NWFP High Court and the mills has been closed.

4. Sethi Straw Board Mills Limited, Rahwali, District Gujranwala (Punjab).

Capacity : 8,000 tons of paper board/year.

Uses : 12,000 tons of bagasse and 3500 tons of waste paper per year.

The mill has been closed.

2.3.8 Total number of mills

The Consultants have thus identified 46 pulp, paper and paper board industries/mills in the country.

Of these 34 mills are operative, 8 are in planning or installation stage and 4 are closed.

The particulars of these 46 mills by provinces is given in annexure IV.

2.4. Drawing of Sample and Survey

A sample was drawn from the list and 16 mills were selected for survey. The original questionnaire was revised so as to make it more exhaustive and informative.

The visit itinerary for survey is attached as annexure V. The list of mills as actually surveyed is attached as annexure VI.

The list of principal persons (other than mill management) with whom discussions have been held is attached as annexure VII.

2.5 Survey Reports

16 Survey Reports are attached as annexure VIII. The names of the persons with mill management contacted and with whom detailed discussions have been held are given in the reports. These mills are:

NWFP

1. Adamjee paper and Board Mills Limited, Nawshera.
2. Pakistan Paper Corporation (PPP) Limited, Charsadda.

PUNJAB

3. Packages Limited, Lahore
4. Premier Paper Mills Limited, Sheikhpura.
5. Ghazi Paper Mills Limited, Sheikhpura.
6. Sampak Paper and Board Mills Limited, Sheikhpura.
7. Century Paper and Board Mills Limited, Kasur
8. Jubilee Paper and Board Mills Limited, Gujranwala.
9. Sultan Paper Board Mills Limited, Gujranwala.

SINDH

10. Dadabhoy Paper Mills Limited, Karachi.
11. Security Paper Limited, Karachi.
12. City Paper and Cardboard Industries Limited, Nooriabad.
13. Orient Strawboard and Paper Mills Limited, Kotri.
14. Sindh Paper Industries Limited, Shafiabad.
15. Chilya Corrugated Board Mills Limited, Chilya
16. Master Papers Limited, Karachi.

These mills included the biggest (Packages) and the smallest (Master) mills. The survey also includes the oldest mill (Adamjee) installed in 1951 and also the one (Century) that has started production in 1990. Two mills (Chilya and Sindh) that have remained closed for last about 15 years and have reopened in 1990 have also been included in the survey along with the mill that has stopped operating this year PPP i.e 1990. Cottage industries manufacturing paper and board have also been included.

2.6 Analysis of the Survey Reports

2.6.1 Raw Materials

The quality of raw materials used by these 16 mills is tabulated below:

Table 2.1 Raw materials (year 1989)

Name of Mill	Quantity in "000" tons						
	Grass	Wheat Straw	Bagasse	Waste Cotton	Waste Local	paper Imported	Wood pulp Imported
1. Adamjee	17.5		22.0	4.0	15.0	4.0	3.0
2. P.P. C	--	--	25.0	--	--	--	5.0
Total MWFP	17.5	--	47.0	4.0	15.0	4.0	8.0
3. Packages	20.0	35.0	--	--	40.0	--	6.0
4. Premier	--	31.5	--	--	--	--	3.2
5. Ghazi	--	15.0	--	--	--	--	1.5
6. Sampak	4.8	17.0	--	--	--	12.2	0.9
7. Century	--	100.0	--	--	38.0	--	6.2
8. Jubilee	--	12.0	--	--	10.0	--	2.2
9. Sultan	--	2.8	--	--	0.5	--	--
Total Punjab	24.8	213.3	--	--	88.5	12.2	20.0

Name of Mill	Grass	Wheat Straw	Bagasse	Waste Cotton	Waste Local	Paper Imported	Wood Pulp Imported
10. Dadabhoy--	--	--	--	--	5.0	--	--
11. Security --	--	--	--	3.6	--	--	--
12. City --	--	--	--	--	3.5	--	--
13. Orient --	--	15.0	12.0	--	6.0	--	--
14. Sindh --	--	1.6	1.6	--	--	--	--
15. Chilya --	--	--	3.2	--	5.5	--	--
16. Master --	--	--	--	--	3.0	--	--
Total Sindh --	--	16.6	16.8	3.6	23.0	--	--
Grand Total	42.3	229.9	63.8	7.6	126.5	16.2	28.0

.6.2 COST OF PULP

During the Survey it has been found that:

- Imported pulp costs Rs.17,000 to Rs.29,000./ton.
- Local pulp from wheat straw, grasses and bagasse costs Rs. 8,000 to 10,000/ton.
- Initial wood price for pulp manufacture would be Rs. 800 to 1,200/ADT stabilising perhaps at Rs. 1,200-1,400/ADT
- Three of the largest operates have stated intention to build new facilities or substantially expand by 25,000 to 50,000 TPA pulp and even more. Others are also keen to use wood for pulp manufacture. All want that there should be assured continuous supply of wood.

Further details of use of raw materials are as under :

(i) Wheat Straw

229,900 tons of wheat straw is used by all 7 mills in Punjab and 2 mills in Sindh. This is the largest quantity of raw material used in pulp making.

Cost ranges from Rs. 400 to Rs. 500/ton with delivery at the mill gate. However in one case of Sindh Paper Mills Limited, Shafiabad, District Thatta (Sindh) the cost of wheat straw is Rs. 700/ton because the mill is located outside the wheat growing zone and wheat straw is transported over a distance of about 200 km.

(ii) Grasses

42,300 tons of "Kahi" grass is used by 3 mills-Adamjee in NWFP and Sampak in Punjab.

The cost is Rs. 400/ton with delivery at the mill gate.

(iii) Bagasse

Both the mills in NWFP and 3 mills in Sindh use bagasse weighing 63,800 tons annually.

The cost ranges from Rs. 300 to 450 per ton with delivery at the mill gate.

(iv) Waste Cotton

Adamjee Paper and Board Mills Limited, NWFP and the Security Paper Limited, Sindh are the only two mills using 7,600 tons of waste cotton per year. The latter makes bank note and security papers and uses only waste cotton as the raw material.

The cost is Rs.1,760/= per ton with delivery at the mills gate.

(v) Waste Paper

This is the second largest raw material used by many of the mills. In a year, 126,500 tons of local and 16,200 tons of imported paper, total 142,700 tons is recycled for paper and board making.

The cost of the local waste paper ranges from Rs. 3,000 to 5,000 per ton with delivery at the mill gate. The imported waste paper costs about Rs. 11,000 per ton.

All the mills in NWFP and Punjab (except one small mill viz. Sultan Paper Board Mills, Gujranwala) used 28,000 tons of imported wood pulp costing Rs. 17,000 to 29,000 per ton depending on the type of pulp.

No mill in country produces wood pulp and all wood pulp is imported.

The availability of raw materials for making pulp locally is given in chapter 4. More details have been given for wheat straw, bagasse and locally collected waste paper as these form the present and also the future important raw materials for manufacture of pulp, paper and paper board.

2.6.2 PULP PRODUCTION

The pulp production in these mills is given in the following Table :

Table 2.2: Pulp Production and Capacity (Year 1989)

Quantity in tons

NAME OF MILLS	PULP PRODUCTION IN THE YEAR	CAPACITY PER YEAR	PERCENTAGE UTILIZATION OF CAPACITY
1. Adamjee	6,313	11,000	57.0
2. Pak Paper	4,800	30,000	16.0
TOTAL: NWFP	11,113	41,000	27
3. Packages	18,000	20,000	90.0
4. Premier	9,400	9,600	97.9
5. Ghasi	1,700	2,500	68.0
6. Sampak	5,400	6,600	81.8
7. Century	33,000	33,000	100.0
8. Jubilee	7,200	16,000	45.0
9. Sultan	700	1,600	44.0
TOTAL: PUNJAB	75,400	89,300	84.4
10. Dadabhoy	---	---	---
11. Security	1,700	17,000	10.0
12. City	---	---	---
13. Orient	8,100	8,100	100.0
14. Sindh	800	10,000	8.0
15. Chilya	850	7,600	11.2
16. Master	---	---	---
TOTAL: SINDH	11,450	42,700	27.0
BRANAL TOTAL:	97,963	173,000	57.0

6.3 PRODUCTION OF PAPER AND PAPER BOARD

The paper and paper board produced by these mills is given in the following table:

Table / : Paper and paper board production (year 1989)

2.3

Quantity in tons

MILL	PAPER				PAPER & BOARD			
	WRITING & PRINTING	WRAPPING & PACKING	OTHER PAPER	TOTAL PAPER	PAPER BOARD	TOTAL PAPER & BOARD	CAPACITY PER YEAR	PERCENTAGE UTILIZATION (OF CAPACI TY)
Adamjee	4,650	-----	-----	4,650	9,140	13,790	32,000	43.1
Pak Paper	5,100	-----	-----	5,100	-----	5,100	32,000	15.9
AL: NWFP	9,750	-----	-----	9,750	9,140	18,890	64,000	29.5
Packages	-----	14,700	2,800	17,500	25,000	42,500	88,000	48.3
Premier	8,733	123	-----	8,856	-----	8,856	9,600	92.3
Ghazi	4,002	-----	-----	4,002	-----	4,002	9,600	41.7
Sampak	-----	-----	-----	-----	13,307	13,307	13,000	102.0
Century	9,900	-----	3,860	13,760	19,800	33,560	35,800	94.0
Jubilee	-----	-----	-----	-----	-----	-----	16,000	0.0
Sultan	-----	-----	-----	-----	719	719	1,060	67.8
AL: PUNJAB	22,635	14,823	6,660	44,118	58,826	102,944	173,060	59.5
Dadabhoj	-----	3,701	-----	3,701	-----	3,701	3,840	96.4
Security	-----	-----	1,277	1,277	-----	1,277	1,280	99.8
City	-----	2,388	-----	2,388	-----	2,388	9,600	24.9
Orient	-----	-----	-----	-----	4,108	4,108	3,840	107.0
Sindh	-----	600	-----	600	-----	600	8,000	7.5
Chily	3,921	-----	-----	3,921	-----	3,921	6,400	61.3
Master	-----	1,800	-----	1,800	-----	1,800	1,600	112.5
AL: SINDH	3,921	8,489	1,277	13,687	4,108	17,795	34,560	51.5
AL TOTAL:	36,306	23,312	7,937	67,555	72,074	139,629	271,620	51.4

production of paper and paper board of the 16 mills surveyed is thus % of the installed capacity. The one reason seems to be that most of mills are not balanced.

2.7 MILLS WILLING TO USE WOOD FOR PULP MANUFACTURE.

The mill management of following 8 mills have shown their willingness to use wood for pulp manufacture. These are:

(i) Adamjee Paper and Board Mills, Nowshera (NWFP)

The mill with capacity of 100 TPD paper and board is the oldest mill in Pakistan. At present the mill is equipped to process non-woody raw materials only. However, with some additional machinery the mill manages to use about 50-100 tons of poplar wood per month for pulping in the existing production system.

Presently the mill is buying poplar logs as well as waste splints from match industry at Rs. 700 per airdry ton delivered at mill gate. The management is prepared to pay a price of Rs. 1000 and Rs. 1200 per airdry ton for barked and debarked wood respectively with delivery at mill gate.

The mill management is of the view that the soft wood (conifers) are very costly and, therefore, even a continuous supply of poplars and eucalypts is most welcome.

Samples of eucalyptus wood have been tested in the mill laboratory and found suitable.

The mill management is keenly interested in any project relating to forestry development in raising of plantations of wood species suitable for use in pulping. For the past many years the management has been trying to find resources capable of supplying enough wood to meet the requirement on a sustained basis so that the management could invest in installation of suitable equipment and machinery for handling and processing of wood to make pulp. The future plans are to put up facilities for producing chemical pulp and CTMP (Chemi-Thermo-Mechanical Pulp) from wood.

However in the first instance, the mill management would prefer to deal with one single agency/management for supply of wood. At a later stage if the supply on sustained yield basis is assured, the management would be ready to buy wood from farmers.

The mill management is prepared to associate with farm-forestry, establish contacts with the farmers and negotiate with them the supply & the price and quantities of wood to be purchased.

At present, this is the only mill in Pakistan making wood pulp.

3. FLYING PAPER INDUSTRIES LIMITED, 26 KM, LAHORE-SHEIKHUPURA ROAD, LAHORE (PUNJAB)

The mill has a paper capacity of 20,000 tons/year and is currently producing 19,500 tons of printing and writing paper (1989-90). The mill is thus running at its full capacity.

The mill has a pulp capacity of 14,000 tons/year to produce bleached hardwood kraft. The raw materials data includes pulp wood deliveries as logs or round wood of 29,000 m³/year.

The pulp mill has the following machinery:

-	Debarking drums	1
-	Chipper	1
-	Batch digesters	5
-	Bleaching Systems	1

The management has plans to ultimately have 3 mills viz: Flying Paper Industries, Flying Board & Paper Industries & Poly Paper and Board Mills with a capacity of 100,000 tons/year of writing and printing paper.

A discussion with the mill management could not be held due to their other pressing engagements.

4. JUBILEE PAPER BOARD LIMITED, KAMOKE (PUNJAB)

The mill with paper board capacity of 15,000 tons/year (10,000 tons linear board and 5,000 tons folding box board) was installed in 1983. The mill has remained closed for a long time and has re-opened under new ownership and management in January, 1990.

The mill has the necessary machinery (except the chipper) installed initially in the year 1983 for making pulp from wood. The mill was getting chipped wood from the match factories. The plant can be reactivated with addition of a chipper. The reasons for not using the wood is that poplar wood is too costly because of its use by the match and sports goods industries and Eucalyptus wood is not available on sustained yield basis. According to Mill management the pulp wood (Poplar or Eucalyptus) costing Rs. 1,000 per ton with delivery at mill gate will produce pulp which would be economical for the mill. The Mill management estimates that the wood pulp produced will cost about Rs. 4,000 to 5,000 per ton.

The mill management is prepared to use wood for producing 50 tons of pulp per day.

PAKISTAN PAPER CORPORATION, NOWSHERA, NWFP

The mill installed in the year 1971 started production in 1972. The mill with a pulp capacity of 25,000 ton/year - 20,000 ton/year from bagasse and 5,000 ton/year from straw plus 15% imported wood pulp was designed to produce 30,000 ton/year of various grades of paper.

The mill is presently closed and is under liquidation. The mill can produce bleached kraft pulp from the Eucalypts and poplars and also from pines.

PACKAGES LIMITED, LAHORE (PUNJAB)

The mill produces 42,500 TPA of a wide variety of paper and board grades including box board-folding and container, corrugated medium, creping tissue, cup stock duplex board, household tissue, kraft paper, kraft wrapping, liveboard-kraft, photocopy base paper, poster paper, printing paper (offset), shoe board, etc.

The mill has a fine laboratory and has tested Eucalyptus amaldulensis wood of ages 5 to 8 years from the Punjab and Sindh many a time and found these woods suitable for pulp manufacture. The mill can put up pulp plant for manufacture of pulp from eucalyptus wood and also from the poplar wood, which has also been found suitable for pulp manufacture, providing there is continuous supply of wood and the price of the pulp produced locally works out to be less than the imported pulp. The mill management is in advanced stage of planning installation of wood chip processing and semi-chemical refining apparatus.

The expansion plan includes establishment of a new 50,000 TPA paper and 30,000 TPA pulp mill in Lahore.

The mill management estimates that for pulp making the cost of wood with delivery at the mill gate should be about Rs. 800-1,000/ton (ADW).

PREMIER PAPER MILLS LIMITED, 7.5 KM, LAHORE ROAD, SHEIKHUPURA (PUNJAB)

The mill with capacity of 10,500 tons per year is actually producing 8,000 to 10,000 tons of writing and printing paper. The mill management estimates the cost of pulp produced from wheat straw at Rs. 12,000/ton.

The mill imports 3,200 tons of wood pulp in a year. The cost of imported pulp at the mill gate works out to Rs. 22,380/= per ton.

The mill management is ready to buy Eucalyptus or poplar wood pulp at a price of about Rs. 10,000/ton. The mill is also interested in making its own wood pulp providing pulp wood is available at reasonable price and the supply is continuous.

8. SAMPAK PAPER AND BOARD MILLS LIMITED, SHEIKHUPURA (PUNJAB)

The mill with paper and paperboard capacity of 2,000 and 12,000 ton/year respectively i.e., total 14,000 tons is currently importing about 750 tons of wood pulp. The mill management are deeply interested in pulp manufacture locally providing there is assured continuous supply of pine, poplar or eucalyptus wood.

9. CENTURY PAPER AND BOARD MILLS, BHAI PHERU, KASUR (PUNJAB)

Century Paper and Board mills with a capacity 30,000 tons/year is the most recent (1990) pulp and paper industry. The management is ready to convert 3 digestors to manufacture pulp from Eucalyptus camaldulensis wood providing sustained supplies are assured. In fact the management is strongly interested to make their own wood pulp and modify or add to the machinery accordingly.

2.8. STOCK EXCHANGE QUOTATIONS, KARACHI STOCK EXCHANGE

There are seven paper & paper board mills, which are public limited companies and their shares are quoted on the Stock Exchange. These companies along with share values are:

<u>Name of Company</u>	<u>Value of Share</u> (Rupees)	<u>Value of share on the Stock Exchange as on June 10, 1990</u> (Rupees)
1. Adamjee Paper & Board Mills Ltd.	10.00	3.80
2. Century Paper	10.00	11.35
3. Chilya Corrugated Board Mills Ltd.	10.00	3.00
4. Orient Straw Board and Paper Mills Ltd.	10.00	34.50
5. Packages Limited	10.00	34.10
6. Pak. Paper Corporation Limited	10.00	2.00
7. Security Paper Ltd.	10.00	34.00

The current value of shares of the Stock Exchange is an indicator of the performance of a company.

CHAPTER-3

PRODUCTION AND CONSUMPTION OF PAPER AND PAPER BOARD

3.1 DEVELOPMENT PATTERN OF PAPER AND BOARD INDUSTRY IN DEVELOPING COUNTRIES:

In establishing a pulp and/or paper mill, some major problems are very heavy capital requirements, high energy requirements, questionable source of raw materials, lack of technology and trained manpower and competition from countries with a long established pulp and paper industry.

Literacy is one of the important factors in development; literacy means education, and education means paper-books, notebooks and writing pads. Education and literacy serve to increase the demand for paper products-a literate population wants to be kept informed-more newspapers, magazines and books; and, as literacy grows, the literate population demands more and more newspapers, magazines, educational material and books.

Development means the establishment of new industries to take over from the traditional subsistence agriculture and new industries means new ways of packaging and this means more letters, memoranda, receipts, pamphlets and packing material.

3.2 SUPPLY AND DEMAND CYCLES:

A developing country initially gets its supply of paper from a developed country. The paper industry is cyclical in nature and in times of plenty, developing countries become the dumping ground for paper products from developed countries. Paper is plentiful and cheap, and this situation encourages a further increase in demand. Then comes the time of shortage and the supply of paper to developing countries is the first one to be out, and paper becomes unavailable at any price. The effect of these periodic shortages of paper in developing countries is very serious, particularly to the print media which many

times have to curtail circulation and reduce pages because of lack of paper.

3.3 FOREIGN EXCHANGE

Another serious problem caused by the growing demand of paper because of development is its effect on the foreign exchange resources of the country.

3.4 ESTABLISHMENT OF A PAPER INDUSTRY

Consequently a developing country starts looking into establishing their own pulp and paper industry because of economic and political needs to assure a steady supply of this vital commodity and, at the same time, to conserve the foreign exchange.

As the demand grows, a developing country starts looking around for possible local raw materials to use for the manufacture of pulp and paper, and most developing countries with an agricultural economy have it in the form of agricultural waste. Others have forest resources and, with the recent developments in technology, tropical woods, which have usually short fiber, can now be used for this purpose.

3.5 HISTORY OF PAPER INDUSTRY IN PAKISTAN

In the past the major pulp and paper production and all of the newsprint production in Pakistan was in east Pakistan now Bangladesh, where wood and bamboo are available in substantial quantities.

With the separation of its eastern wing at the end of 1971, Pakistan was faced with a virtual famine in early 1972. The annual local production of writing and printing paper fell to even less than 25,000 tons against the national demand of about 48,000 tons.

The situation was further aggravated towards the end of 1972, when prices of pulp and paper in the international market began to sour up. At the sametime indigenous production was subjected to still greater constraints because of price controls and this resulted in the closing down of the two paper mills viz:

- Allied Paper Industries, P.O. Shafiabad, District Thatta (Sindh)
- Dada Paper Mills Limited, District Thatta (Sindh)

Which have restarted production only recently after remaining closed for about fifteen years under new names, ownership and management.

In the affairs then existing, the Government decided to allow import of paper on "Free List" without levy of any import duty or sales tax and thus huge quantities of paper and board were imported. This measure affected local production as the production cost of the writing and printing paper was higher than the cost of imported paper. Later the Government reimposed import duty on paper. But by the time decision came, enough damage had already been done, so except two integrated pulp, paper and board mills:

- M/s. Packages Limited, Lahore (Punjab)
- M/s. Adamjee Paper and Board Mills Limited, Nowshera (NWFP),

all other mills suffered heavy losses. This caused discouragement to the private sector and for a long time no new paper mill came up.

3.6 PERCAPITA CONSUMPTION OF PAPER AND BOARD AS AN INDICATOR OF PROSPERITY

Like the gross domestic product (GDP), the consumption of paper and board in a country is also a yardstick by which its prosperity and the peoples well-being is judged. Paper products are pervasive to modern society-sanitary

and hygienic products, writing, printing and publishing, packing and wrapping; and hosts of industrial products. Paper is one of the basic commodities of modern civilization, and per capita consumption is a common indicator of cultural and economic achievement. Worldwide range is from less than 1 Kg to 311 Kg in the U.S.A. It is 151.8 in Europe & 17.7 in Asia, Pakistan is 2.7 Kg (1989).*

The bar diagrams on the following pages for the Asia-Pacific countries show:-

- Per capita GDP in rich and poor countries,
- production of paper and paper board by big and small producers,
- consumption of paper and paper board in large and small countries,
- per capita consumption of paper and paper board in rich and poor countries.

3.7 PRODUCTION OF PAPER AND PAPER BOARD IN PAKISTAN

The production of paper and paper board in the country has been estimated by the various agencies.

3.7.1 ESTIMATES BY THE FEDERAL BUREAU OF STATISTICS

The estimates of paper and paper board in the country as reported by the Federal Bureau of Statistics (FBS), Statistics Division, Government of Pakistan for the last nineteen years are given in annexure 1X.

The FBS collects data for the paper and paper board mills that are registered with it. The maximum number of mills reporting in anyone year are fifteen only, which are less than half of the number of actual mills.

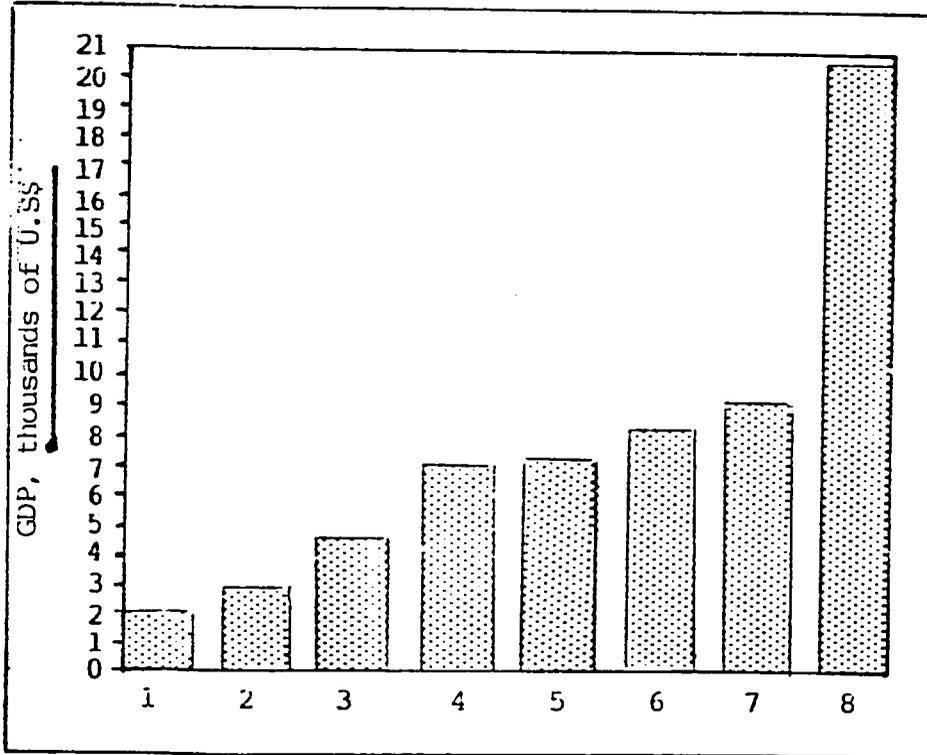
The production during last 3 years is given in table 3.1

* Pulp & Paper Wood Review (August, 1989)

**PRODUCTION & CONSUMPTION OF PAPER & PAPER BOARD
IN THE ASIA - PACIFIC COUNTRIES**

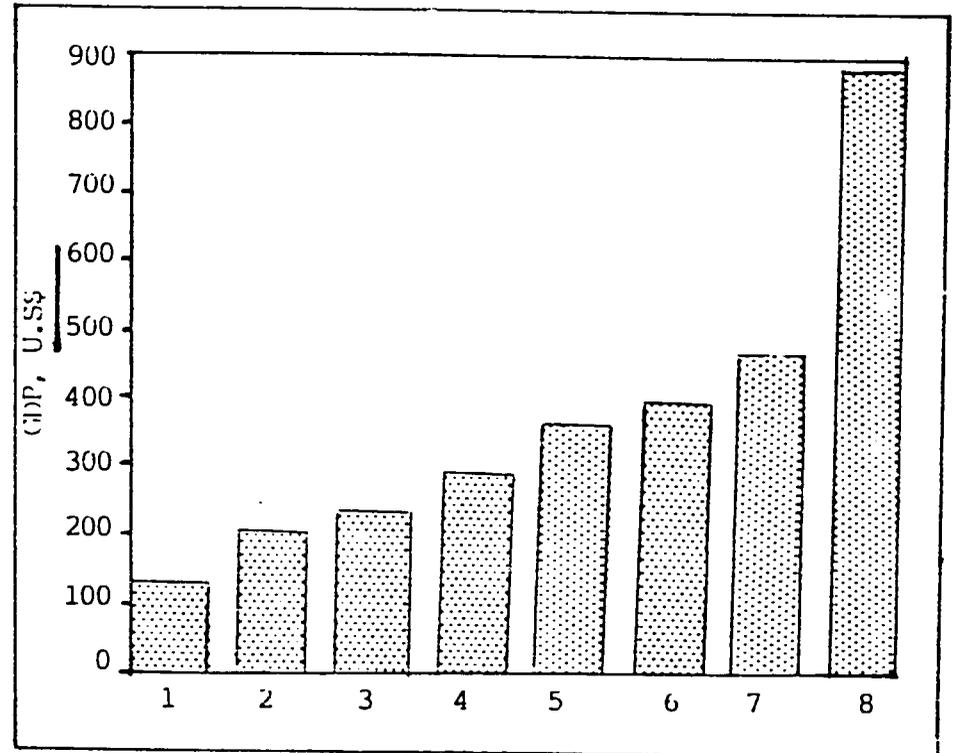
BAR DIAGRAM 3.6 PER CAPITA GROSS DOMESTIC PRODUCT (GDP)

1987 per capita GDP of rich nations



1-Malaysia 2-Korea 3-Taiwan 4-New Zealand
5-Singapore 6-Hong Kong 7-Australia 8-Japan

1987 per capita GDP of poor nations

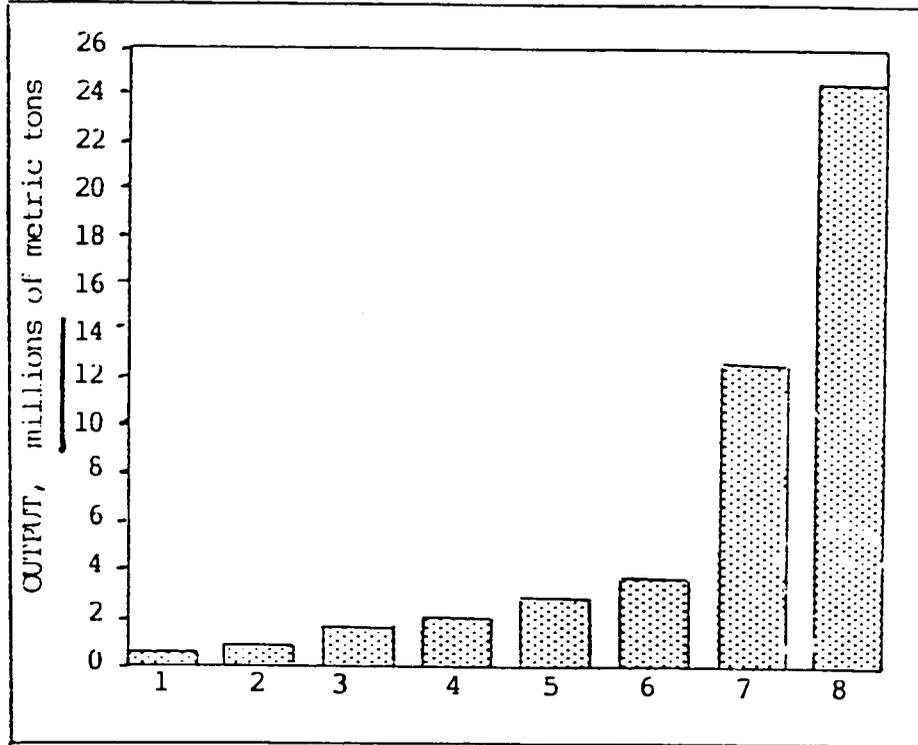


1-Bangladesh 2-India 3-China 4-Indonesia
5-Sri Lanka 6-Pakistan 7-Phillipines 8-Thailand

SOURCE: TAPPI Journal, February, 1990
Parkway South, Norcross,
Georgia-30092, U.S.A.

BAR DIAGRAM 3.7 PRODUCTION OF PAPER & PAPER BOARD BY BIG AND SMALL PRODUCERS

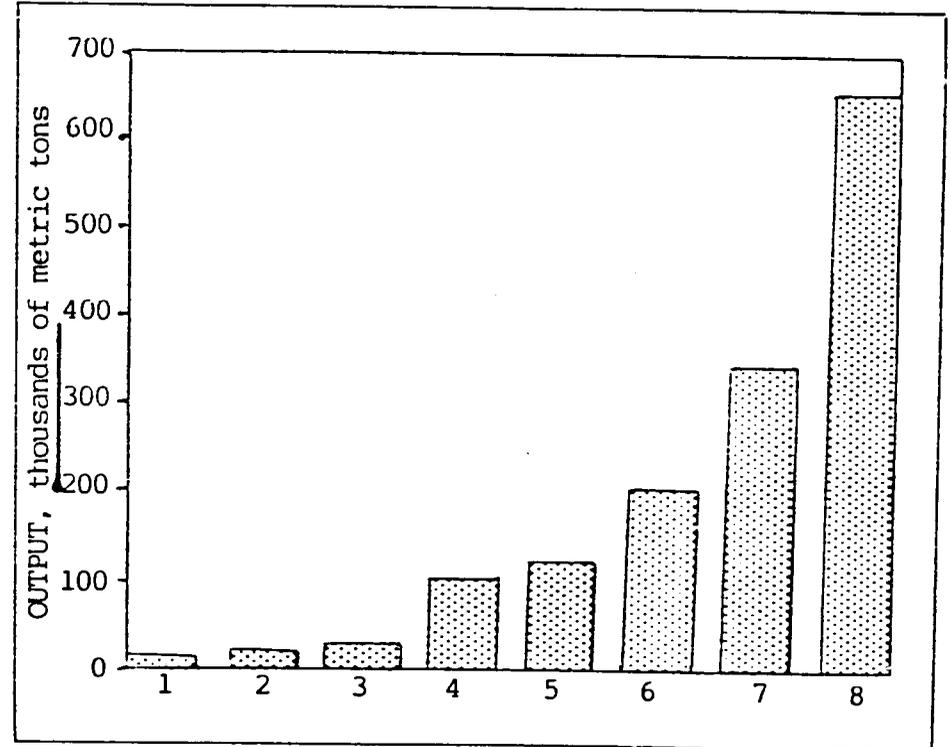
1988 output by big producers



1-New Zealand 2-Indonesia 3-Australia 4-India
5-Taiwan 6-Korea 7-China 8-Japan

SOURCE : TAPPI Journal, February, 1990
Parkway South, Norcross,
Georgia - 30092, U.S.A.

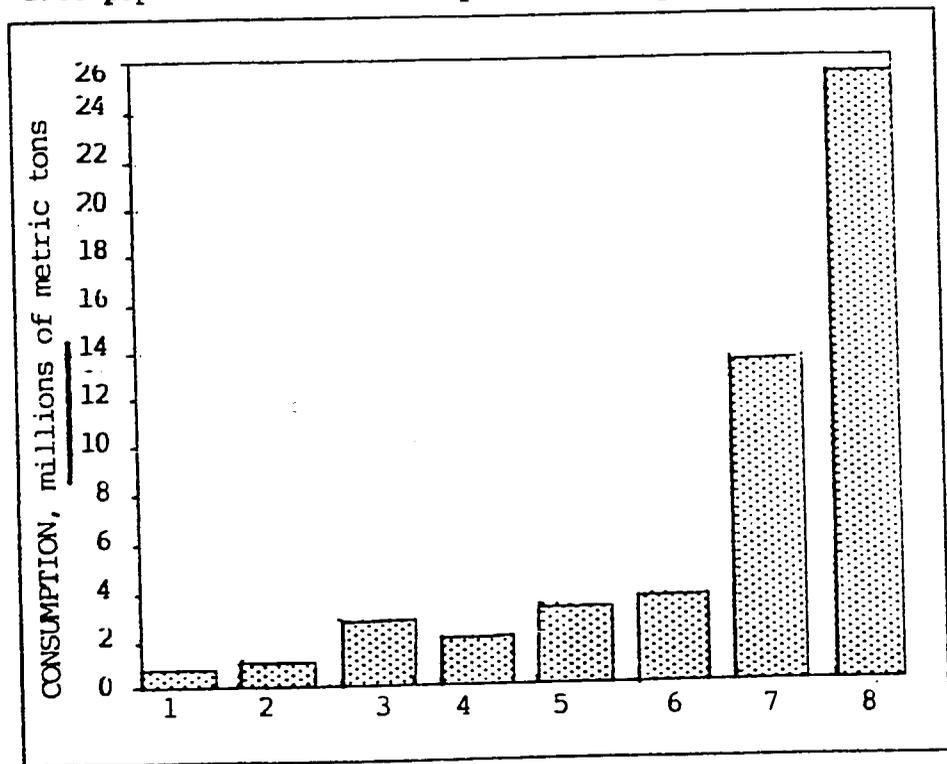
1988 output by small producers



1-Singapore 2-Hong Kong 3-Sri Lanka 4-Pakistan
5-Bangladesh 6-Malaysia 7-Phillipines 8-Thailand

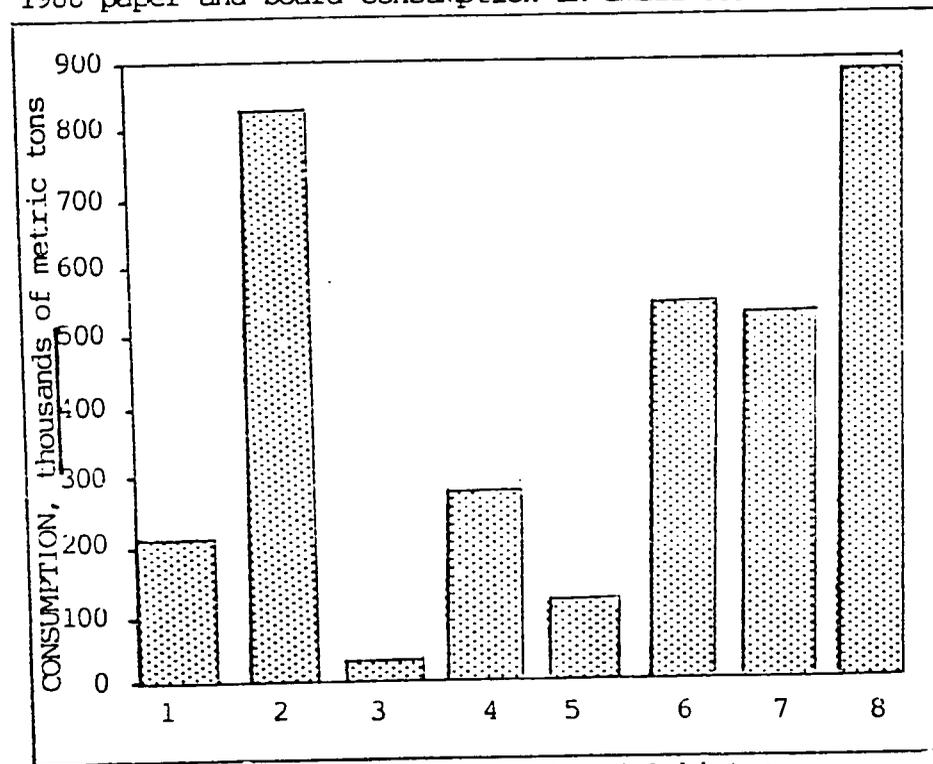
BAR DIAGRAM 3.8 CONSUMPTION OF PAPER & PAPER BOARD IN LARGE & SMALL COUNTRIES

1988 paper and board consumption in large countries



1-New Zealand 2-Indonesia 3-Australia 4-India
5-Taiwan 6-Korea 7-China 8-Japan

1988 paper and board consumption in small countries

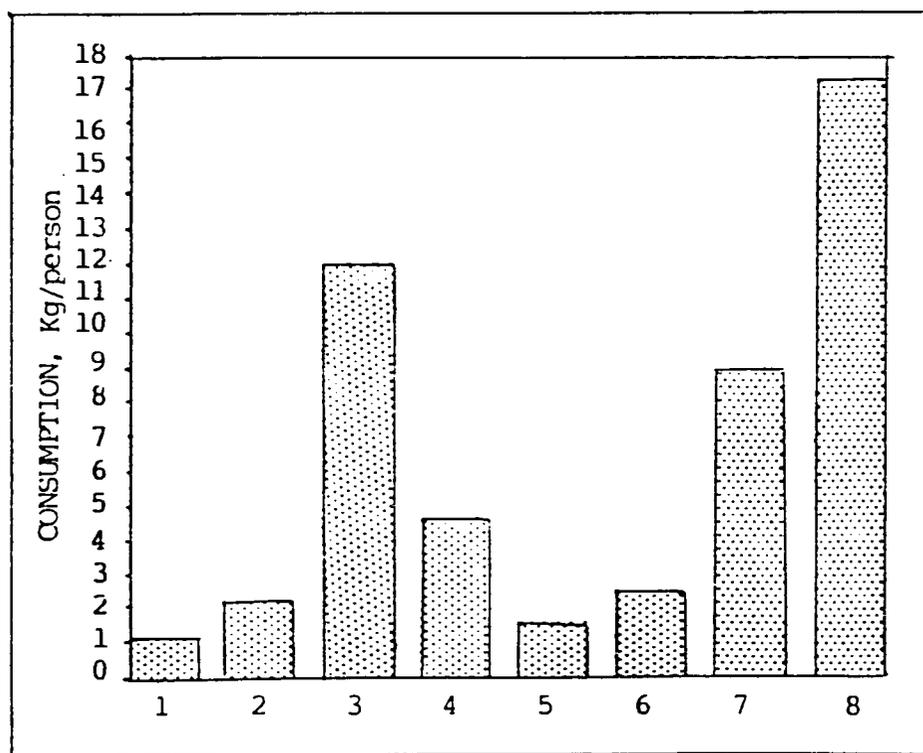


1-Singapore 2-Hong Kong 3-Sri Lanka 4-Pakistan
5-Bangladesh 6-Malaysia 7-Phillipines 8-Thailand

SOURCE: TAPPI Journal, February, 1990
Parkway South,
Georgia-30092, U.S.A.

BAR DIAGRAM 3.9 PER CAPITA CONSUMPTION OF PAPER & PAPER BOARD IN RICH & POOR COUNTRIES

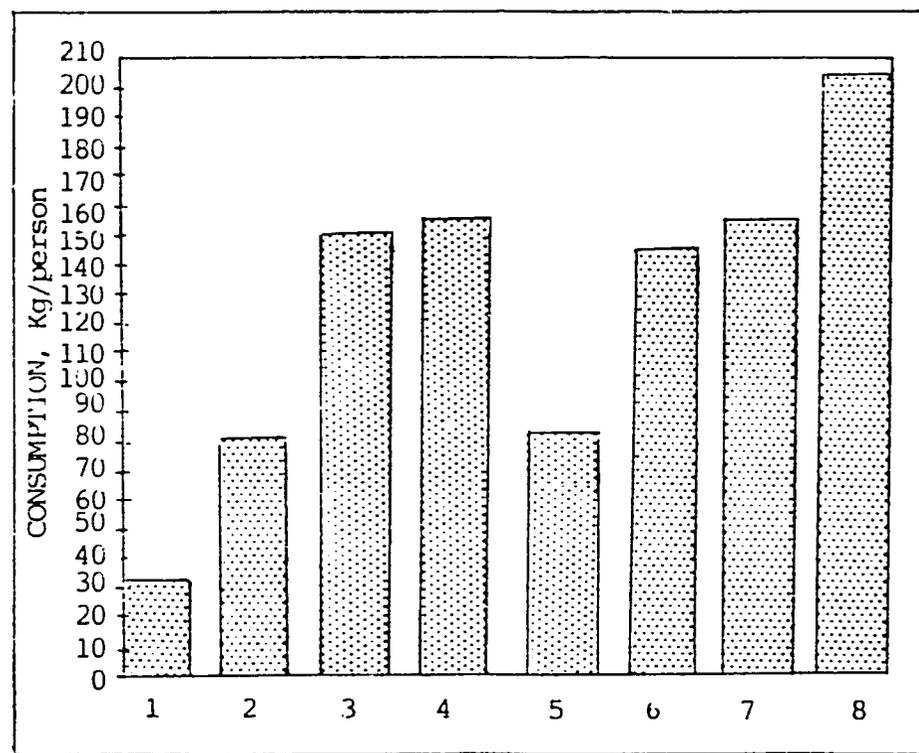
1988 Per capita Consumption of Paper & Board in poor Countries



1-Bangladesh 2-India 3-China 4-Indonesia
5-Sri Lanka 6-Pakistan 7-Phillipines 8-Thailand

SOURCE : TAPPI Journal, February, 1990
Parkway South,
Georgia - 30092, U.S.A.

1988 Per capita Consumption of paper & board in rich Countries



1-Malaysia 2-Korea 3-Taiwan 4-New Zealand
5-Singapore 6-Hong Kong 7-Australia 8-Japan

Table: 3.1 Summary of production as per FBS

Commodity	Quantity in tons		
	Years		
	1986-87	1987-88	1988-89
1. Writting and printing paper	10,164	12,469	15,742
2. Other paper & board	87,862	89,218	87,445
Total:	98,026	101,687	103,187

7.2 ESTIMATES BY THE PAKISTAN PULP, PAPER AND BOARD MAKERS ASSOCIATION

The Pakistan Pulp, Paper and Board Makers Association (PPPBMA) estimates the paper and paper board production in the country but again its estimates are limited to the 25 members of the Association only. Its estimates of production for the last three years are given in annexure X.

The summary of the production is as under:

Table: 3.2 Summary of Production as per PPPBMA

Commodity	(Quantity in tons)		
	Years		
	1986-87	1987-88	1988-89
1. Writting and printing paper	40,095	55,511	55,224
2. Other paper and board	106,038	100,593	104,575
Total:	146,133	156,104	159,799
Installed capacity	222,100	222,100	252,100
Percentage production of installed capacity	65.8	70.3	63.4

3.7.3 ESTIMATES BY CONSULTANTS

During the year 1988-89, 31 mills were in production. The data for 25 mills has been given in table 3.2. The data for remaining 6 mills is as under:-

Table 3.3 Production
Quantity in tons

Name of the mill	Capacity	Writing & Printing Paper	Other paper & Board	Total Production
1- 25 mills (Table 3.2)	252,100	55,224	104,575	159,799
2- Ghulam Qadir Straw Board Mills, Gujranwalla(Punjab)	N.A	N.A	N.A	N.A
3- Jubilee Paper Mills, Gujranwalla (Punjab) (Installed in 1983, closed in 1985, Restarted production in January, 1990)	15,000	-	3,000	3,000
4- Master Paper Mills, Karachi (Sindh)	1,500	-	1,500	1,500
5- Poly Paper & Board Mills Sheikhpura (Punjab) (A mill of Flying Paper Industries)	7,500	N.A	N.A	N.A
6- Punjab Board Mills Ltd. Sheikhpura (Punjab)	N.A	N.A	N.A	N.A
7- Sindh Paper Industries Gharo, Thatta (Sindh) (Formerly Allied Paper Industries, installed in 1983, closed in 1985 Reopened in January, 1990)	7,500	-	600	600
Total	283,600	55,224	109,675	164,899

Percentage production of installed capacity =58.1

7.4 PRODUCTION BY COTTAGE INDUSTRIES

There are 143 cottage industries making paper board located in New Karachi & Korangi of Karachi. Similarly there are 37 such cottage industries in Lahore. On an average these cottage industries manufacture about 200 tons of board daily i.e about 64,000 in a year. The people residing in the small sizes plots (80 to 120 sq. meter) have constructed double story houses & use the ground floor for manufacture of paperboard, residing themselves on the first floor.

Practically each one of them has a 4 meter fouldinier machine, one beater and one agitator & two pumps-one water pump and the other stuff pump for lifting of the pulp. The board is dried in the sun & calender and cutting machines are maintained jointly. The raw material used is waste paper collected from the city.

Currently the total production of paper & paperboard per year in the country is thus estimated as under:-

1. Printing & Writting paper	55,224 tons
2. Other paper & paper board	<u>173,675 tons</u>
Total	228,899 tons
Rounded of to	229,000 tons

against the installed capacity of (283,600+64,000) 374,600 tons/year. According to the consultants estimates the production is thus 61.1 percent of the installed capacity.

3.8 IMPORTS OF PULP, PAPER AND PAPER BOARD

The domestic production falls short of the local demand. Accordingly a large quantity of paper and paper board is imported annually. In addition pulp & waste paper is also imported. The total imports during the last 14 years are given in table 3.4.

The details of imports for last 5 years are attached as annexure X.

Table 3.4- Imports

S.NO.	COMMODITY	Quantity in Tons- Value in Million Rupees.									
		1975 - 76		1976 - 77		1977 - 78		1978 - 79		1979 - 80.	
		QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
1.	PULP INCLUDING WASTE PAPER	2,672	11.8	5,146	18.9	7,958	27.5	10,032	38.2	7,527	48.5
2.	NEWSPRINT PAPER	6,662	28.7	5,232	24.7	14,880	59.4	35,820	133.3	33,155	153.0
3.	PRINTING AND WRITING PAPER	42,772	93.5	15,111	68.1	18,585	115.8	23,270	122.3	23,156	148.1
4.	OTHER PAPER AND PAPER BOARD	18,502	90.9	40,281	109.8	31,183	144.3	36,137	171.6	35,030	224.7
5.	ARTICLES MADE OF PAPER & PAPER BOARD	3,544	34.0	5,864	44.2	2,738	35.3	2,404	43.8	3,615	45.6
TOTAL:		74,152	258.9	71,634	246.8	75,617	382.3	107,663	509.2	102,483	619.9

Table 3.4-Imports (Contd)

S.NO.	COMMODITY	Quantity in Tons - Value in Million Rupees.									
		1980 - 81		1981 - 82		1982 - 83		1983 - 84		1984 - 85	
		QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
1.	PULP INCLUDING WASTE PAPER	15,630	79.5	15,363	67.7	19,487	92.3	27,116	119.2	33,039	158.7
2.	NEWSPRINT PAPER	33,384	180.2	27,233	164.8	34,459	209.3	29,192	157.7	40,435	276.6
3.	PRINTING & WRITING PAPER	21,065	164.5	30,605	286.1	36,066	330.6	43,627	373.6	63,498	579.7
4.	OTHER PAPER AND PAPER BOARD	26,278	339.0	51,525	366.8	45,473	362.1	64,710	475.1	76,428	527.0
5.	ARTICLES MADE OF PAPER & PAPER BOARD	1,757	38.0	4,399	77.3	5,646	117.1	6,064	113.1	6,411	115.7
TOTAL:		98,114	801.2	129,125	962.7	141,131	1,111.4	170,709	1238.7	219,811	1,657.7

Table 3.4-Imports

		Quantity in Tons - Value in Million Rupees.							
S.NO.	COMMODITY	1985 - 86		1986 - 87		1987 - 88		1988 - 89	
		QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
1.	PULP INCLUDING WASTE PAPER	38,186	135.9	52,703	259.2	58,030	339.1	57,824	373.9
2.	NEWSPRINT PAPER	97,362	241.2	51,817	392.7	44,548	439.3	52,689	625.8
3.	PRINTING AND WRITING PAPER	48,885	563.4	41,341	656.8	58,071	861.0	49,256	890.4
4.	OTHER PAPER AND PAPER BOARD	85,721	730.2	141,817	823.5	125,704	992.4	158,834	1,117.1
5.	ARTICLES MADE OF PAPER AND PAPER BOARD	945	15.1	500	13.2	1,455	24.0	1,484	34.2
TOTAL:		211,099	1,705.8	288,178	2,145.4	287,808	2,855.8	320,087	3,042.4

Difference in totals is due to rounding off.

3.9 CONSUMPTION OF PAPER AND PAPER BOARD

The consumption of paper and paper board in any given year is equal to domestic production plus imports but minus exports. Furthermore, since imported pulp and waste paper are used in local production, they have to be excluded. The apparent consumption during 1988-89 is given in the following table:

Table 3.5: Consumption of Paper & Paper Board
Quantity in tons

Source	Newsprint	Writing & Printing Paper	Other Paper, Board & articles made of paper & board	Total
Local production	-	55,224	173,675	229,899
Imports	52,689	49,256	160,318	262,263
Total	52,689	104,480	333,993	492,162
Percentage				
Local production				
Viz-a-viz				
Imports	0:100	53:47	52:48	47:53
Minus				
Exports	-	136	108	244
Net				
Consumption	52,689	104,344	333,885	491,918

3.10 PER CAPITA CONSUMPTION CONSULTANTS ESTIMATES

The population of Pakistan during the year 1989-90 has been indicated at 113.231 million (Para 1.3 of volume 11). The per capita consumption of paper thus works out to 1.4 Kg. & that of paper & board at 4.3 Kg. This figure differs with the per capita consumption calculated by others.

3.11 OTHER DATA ON PULP, PAPER & PAPER BOARD INDUSTRIES.

The Federal Bureau of Statistics, Statistics Division, Government of Pakistan, Karachi carries out census of manufacturing industries in the country every five years. The last census was carried out in 1985-86 and the next census is due in 1990-91.

The information with regard to:

- Number of establishments,
- Number of persons employed
- Fixed price assets
- Ownership of the establishments
- Organisation by legal status

on the pulp, paper & paper board production & manufacture of various articles from paper & board are for the year 1985-86 is given in the following tables:

TABLE 3.6
PULP, PAPER, PAPER BOARD AND PAPER & BOARD PRODUCTS INDUSTRIES
SHOWING ESTABLISHMENTS—YEAR, 1985 - 86.

	<u>PAKISTAN</u>	<u>PUNJAB</u>	<u>SINDE</u>	<u>NWFP</u>	<u>BALUCHISTAN</u>	<u>ISLAMABAD</u>
PULP & PAPER	6	2	3	1	—	—
PAPER BOARD	9	5	3	1	—	—
PULP, PAPER & BOARD ARTICLES	18	4	8	3	2	1
OTHER PAPER PRODUCTS	16	2	9	1	4	—
	49	13	23	6	6	1

SOURCE:

"Census of Manufacturing Industries in Pakistan" Year 1985-86.

Federal Bureau of Statistics, Statistics Division, Government of Pakistan
 Karachi.

TABLE 3.7
PULP, PAPER, PAPER BOARD AND PAPER & BOARD PRODUCTS INDUSTRIES
SHOWING EMPLOYMENT YEAR 1985-86.

<u>NO. OF PERSONS</u>		<u>PAKISTAN</u>	<u>PUNJAB</u>	<u>SINDH</u>	<u>HWYD?</u>	<u>BALUCHISTAN</u>	<u>ISLAMABAD</u>	<u>REMARKS.</u>
Up to	9 Persons	3	1	2	2	—	—	
From	10 to 19 Persons	9	—	7	1	4	—	
"	20 49 "	20	5	10	1	1	—	
"	50 99 "	5	2	1	—	1	—	
"	100 249 "	9	4	3	—	—	1	
"	250 499 "	—	—	—	—	—	—	
"	500 999 "	—	—	—	—	—	—	
"	1000 1999 "	2	—	—	2	—	—	
"	2000 4999 "	1	1	—	—	—	—	
"	5000 & Above "	—	—	—	—	—	—	
TOTAL:		49	13	23	6	6	1	

SOURCE:

"Census of Manufacturing Industries in Pakistan" Year 1985-86,
 Federal Bureau of Statistics, Statistics Division, Government of
 Pakistan, Karachi.

TABLE 3.8
PULP, PAPER, PAPER BOARD AND PAPER & BOARD PRODUCTS INDUSTRIES
SHOWING FIXED PRICE ASSETS-YEAR 1985 - 86.

			<u>PAKISTAN</u>	<u>PUNJAB</u>	<u>SINDEH</u>	<u>NWFP</u>	<u>BALUCHISTAN</u>	<u>ISLAMABAD</u>
Up to	Rs. 250,000		7	-	6	1	-	-
From Rs. . 250,001	to	Rs. 500,000	4	1	3	-	-	-
From Rs. 500,001	to	Rs. 1,000,000	10	4	5	1	-	-
" " . 1,000,001	to	" . 2,000,000	4	-	3	1	-	-
" " . 2,000,000	to	" . 2,500,000	-	-	-	-	-	-
" " . 2,500,000	to	" . 5,000,000	5	2	2	-	1	-
Above Rs. 5,000,000		-----	18	5	4	3	5	1
Rented or leased		-----	1	1	-	-	-	-
Not Reported.		-----	-	-	-	-	-	-
			49	13	23	6	6	1

SOURCE:

"Census of Manufacturing Industries in Pakistan" Year 1985 - 86.

Federal Bureau of Statistics, Statistics Division, Government of Pakistan

Karachi.

TABLE 3.9PULP, PAPER, PAPER BOARD AND PAPER & BOARD PRODUCTS INDUSTRIESSHOWING OWNERSHIP YEAR-1985 - 86

	<u>PAKISTAN</u>	<u>PUNJAB</u>	<u>SINDH</u>	<u>NTFP</u>	<u>BALUCHISTAN</u>	<u>ISLAMABAD</u>
Pakistan, state owned /Public Sector	6	-	2	2	2	-
Pakistan, State owned /Public Sector foreign collaboration	-	-	-	-	-	-
Pakistan, Private owned.	42	13	20	4	4	1
Pakistan, Private owned with foreign collaboration	-	-	-	-	-	-
Foreign controlled enterprises	1	-	1	-	-	-
TOTAL:	49	13	23	6	6	1

SOURCE:

"Census of Manufacturing Industries in Pakistan" Year 1985 - 86

Federal Bureau of Statistics, Statistics Division, Government of Pakistan
Karachi.

TABLE 3.10

PULP, PAPER, PAPER BOARD AND PAPER & BOARD PRODUCTS INDUSTRIESSHOWING ORGANISATIONS BY LEGAL STATUS - YEAR 1985 - 86

	<u>PAKISTAN</u>	<u>PUNJAB</u>	<u>SINDH</u>	<u>NWFP</u>	<u>BALUCHISTAN</u>	<u>ISLAMABAD</u>
Individual Ownership	1	-	1	1	-	-
Partnership	12	2	9	1	-	-
Private Limited Company	24	8	10	2	3	3
Public Limited Company	12	3	3	3	3	-
TOTAL:	49	13	23	7	6	3

SOURCE:

"Census of Manufacturing Industries in Pakistan" Year 1985 - 96

Federal Bureau of Statistics, Statistics Division, Government of Pakistan, Karachi.

12 NEWSPRINT & KRAFT PAPER

Currently all newsprint is imported. All kraft paper is also imported.

In Pakistan the principal use of kraft paper is for the manufacturing of bags/sacks used in the packing of cement. Apart from its strength to hold 50 Kg. cement, kraft paper has the advantage of breathing and damp resistance. Kraft paper is also used extensively as top liner in the manufacture of corrugated board. It also finds application in the manufacture of small bage for shops & departmental stores. Another increased usage is in the production of gummed tape.

At present there is no production of kraft paper in the country although some cheap quality wrapping paper is being produced. This is manufactured from local raw material & blended with imported long fiber pulp. The quality of this paper is low compared to the standard kraft paper imported from abroad. Its use is restricted to low quality wrapping paper for laundries, grocery shops and the vendors selling etables packed in small bags.

13 FUTURE PROJECTION

Keeping in view the growth in population, upward trend in economy & more literacy there will be substantial increase in the consumption of paper & paper board in future in the country. We estimate the growth rate at 11.5% per year. Accordingly the demand in the year 2000 is projected as under:

CATEGORY	Quantity in tons	
	YEAR 1988-89	YEAR 1999-2000
Printing & Writing Paper	104,300	236,800
Other paper & board	333,900	757,900
Newsprint	52,700	119,600
Total	490,900	1114,300

CHAPTER -4

RAW MATERIALS

4. LOCAL RAW MATERIALS

Pakistan's economy largely depends on agriculture and substantial efforts are being put in by way of efficient land management, proper utilization of irrigation water, introduction of high yielding varieties, combined with the increased use of fertilizer and pest control. All this has resulted in higher agricultural production, thereby also generating higher agricultural wastes.

These agricultural wastes like wheat straw, rice straw, bagasse and cotton linter etc, are all fibrous raw materials suitable for the manufacture of pulp, paper & paperboard. The pulp produced from these raw materials is generally poor in strength properties and it always requires blending with long fiber wood pulps. On an average 10-30% imported long fiber pulp is used in the finnish alongwith the local pulps to produce a reasonably good quality of paper & paperboard suitable for the local market.

The following are some of the agricultural wastes suitable for pulping:

4.1. WHEAT STRAW

Wheat is the major crop of Pakistan. During 1989-90 the country harvested 14.3 million tons of wheat. The province-wise breakup of the wheat production is as follows:-

<u>PROVINCE</u>	<u>QUANTITY OF WHEAT PRODUCED</u> (MILLION TONS)
PUNJAB	10.4
SINDH	2.2
NWFP	1.1
BALUCHISTAN	0.6

SOURCE:- MINISTRY OF FOOD, AGRICULTURE & CO-OPERATIVES,
COP, ISLAMABAD.

The quantity of straw obtained is equivalent to the quantity of grain. The alphacellulose contents in wheat straw are lower compared to wood, but the fiber yield of unbleached pulp is approximately 50% due to the high hemicellulose contents present in straw. It is estimated that on an average, about 10 million tons of wheat straw is in the Punjab region, where practically all the pulp, paper & board mills use wheat straw as raw material. Even if 5% of the total quantity is made available for paper & board manufacture it will yield 0.5 million tons of pulp. In fact the paper & board mills around Lahore, Gujrawanwala, Sheidhupura & Kasur districts require about 0.6 million tons of wheat straw per annum which is 5.7% of the total straw available in the Punjab.

4.2. RICE STRAW

Very little or practically no rice straw is being used for paper & board because of its high silica contents and hydrated pulp. The use of rice straw as a raw material for pulp has yet to be demonstrated and till the wheat straw continues to be available in the required quantities, rice straw will not be used. As regards the availability, three million tons of rice straw is available in the country per year & bulk of it is in Punjab & on the right bank of river Indus in Sindh.

4.3. BAGASSE

Pakistan is the sixth largest sugarcane growing country and sugarcane is one of its major crops. A total of 900,000 ha. of land is under the crop producing more than 34 million tons of sugarcane & releasing about 8 million tons of bagasse. Bagasse is a well established raw material for making almost all grades of paper, starting from fine quality paper to board. It yields 50% of chemical pulp and about 70% of semi-chemical pulp. Normally the sugarmills burn bagasse as fuel for boilers, but some have successfully replaced bagasse by natural gas, thus making bagasse available for making pulp & paper.

In order to utilize bagasse for paper making, it is advantageous to install a depithing unit as an integral part of a sugar mill, where pith can be separated from the fiber & used as fuel for boilers, while the fiber could be transported to the mills for paper manufacture. Pakistan Paper Corporation, Charsadda is entirely based on bagasse. The other mills using bagasse are:-

- Orient Straw Board & Paper Mills Ltd. Kotri, District Dadu (Sindh) using 12,000 tons bagasse per annum,
- Sindh Paper Mills (Pvt) Ltd. P.O. Shafiabad, District Thatta (Sindh), which has reopened from November 1989 & will be using about 12,000 tons bagasse per annum.

In view of the advances made in pulping of bagasse in the world, this raw material appears to be one of the most promising base for paper & board industry in future.

If only 25% bagasse is considered available for pulp manufacture then about 2 million tons of bagasse would be available. The phenomenal growth of sugar industry in Pakistan offers a golden opportunity for establishing a firm base for raw material supply for the pulp mill.

4.4. GRASSES

4.4.1 KAHI

There is a wide range of grasses grown in Pakistan, which can be used for making pulp and paper but the resources have not been fully tapped. Kahi (*Saccharum Spontaneum*) grass grows wild along the river banks and 'Kahi' is being used for making paper & board by Adamjee Paper Mills & Packages Ltd. Kahi yields pulp of desirable bulk and machine runnability.

4.4.2 BHABBAR (BERWAZA)

Grass has shown excellent results for manufacture of paper and board. Infact Adamjee Paper Mills at Nowshara was based on "Bhabbar" grass but due to its shortage, "Kahi" grass is being used by them.

4.5. COTTON LINTERS AND WASTE COTTON.

Cotton is a major cash crop in Pakistan. Linters and cotton wastes are available from ginning and textile industries as their by-products and are available for making pulp of high quality for producing superior papers as well as for blending with short fiber pulps, produced from wheat straw and grasses, for making writing and printing papers. Its yield is quite high, ranging from 70 to 80%. As cotton linter is being used in making of rayon and by the ordinance factories, cotton waste being cheaper than linter is used for pulp & paper.

PULP CHARACTERISTICS

The pulp characteristics of the wheat straw and grasses are as under:-

Table 4.1: Pulp Characteristics

	<u>WHEAT STRAW PULP</u>		<u>Kahi Grass</u>	<u>Imported</u>
	<u>(Unbleached)</u>	<u>(Bleached)</u>	<u>Pulp</u>	<u>Kraft</u> <u>Soft Wood</u> <u>Pulp(Bleached)</u>
Original ⁰ SR	24	29	20	17
Burst Factor	28	30.2	18.9	18
Tear Factor	35.6	33	40	114
Breaking Length (Meter)	5670	5770	4210	11200
Brightness (%)	-	76	-	88
Shik ³ /gm	1.5	1.32	1.7	1.44
Moisture Content (%)	10.5	6.25	10.2	10.2
Alpha Cellulose (%)	70.41	72.7	-	86
Beta Cellulose (%)	5.39	3.31	-	-
Gamma Cellulose (%)	2.2	3.96	-	-

Strength properties are at 45⁰ SR

Source:- M/S Packages Ltd. Lahore.

While there is no difficulty in procuring wheat straw, bagasse and cotton linter, the collection and procurement of grasses is a major problem and studies are needed to streamline collection process and also regrowth of grasses in the areas close to the hills.

7 WASTE PAPER

Waste Paper is a heterogeneous discarded paper and board in all its forms.

.1 GRADES OF WASTE PAPER

Waste paper as a raw material is processed in the various grades as under:-

<u>GRADES</u>	<u>NOMENCLATURE</u>	<u>DESCRIPTION</u>
1.	BEST WHITE	Best white, writing shavings, envelope cuttings.
2.	FINE SHAVINGS	White writing and ledger shavings.
3.	WHITE AND CREAM SHAVINGS	White and cream book shavings and free from coated paper.
4.	WHITE COATED SHAVINGS	White art shavings, Must not contain photographic papers.
5.	WHITE UNPRINTED	Unprinted newsprint and similar paper may contain shavings.
6.	BUFF ENVELOPE CUTTINGS	Unprinted buff envelope cuttings containing mechanical wood pulp with strong or unbleached sulphite/sulphate base.
7.	BUFF TABULATING CARDS	As described.
8.	COLOURED TABULATING CARDS	As described.
9.	LIGHT BROWNS OR BUFFS	Buff papers containing mechanical wood pulp with a strong or unbleached sulphite/sulphate base; printed or written upon, may include postage stamps. Free of sealing wax.

<u>GRADES</u>	<u>NOMENCLATURE</u>	<u>DESCRIPTION</u>
10.	LEDGERS	Stripped ledgers without covers or indices, marble end-paper; must be free from mechanical wood pulp and consist of tough ledger paper.
11.	WHITE HEAVY LETTER	White writing papers printed or written upon; may contain pins and small paper fasteners. Free from mechanical wood pulp. Free from covers, strings and elastic bands.
12.	COLOURED HEAVY LETTER	White and coloured writing papers, printed or written upon.
13.	WHITE CONTINUOUS STATIONERY WASTE	As described,
14.	COLOURED CONTINUOUS STATIONERY WASTE	As described.
15.	WHITE CARBONLESS COPY PAPER WASTE	New white carbonless copy paper or shavings, free print.
16.	COLOURED CARBONLESS COPY PAPER WASTE	Same as above but containing coloured paper or shavings.
17.	BEST WHITE PAMS	Books and pamphlets; without hard covers, may contain up to 10% coloured printings.
18.	OVER-ISSUE NEWS	Unsold newspapers free from pins.
19.	ONCE-READ NEWS	Flat or shredded or processed news papers, free from pins.
20.	ONCE-READ WOODY PAMS	Periodicals without hard covers, May contain pins.
21.	NEWS AND PAMS	A combination of Grade 19- Once read news papers- and Grade 20- Once read woody pams, with the quantity of Grade 20 not exceeding 30% of the total.

<u>GRADE</u>	<u>NOMENCLATURE</u>	<u>DESCRIPTION</u>
22.	TELEPHONE DIRECTORIES WITH SOFT COVERS	As described.
23.	COLOURED MANILLA	Strong coloured papers printed or unprinted with a manilla or strong sulphate/sulphite base.
24.	USED BROWN KRAFT	Used brown kraft paper with a sulphate pulp base, printed or unprinted.
25.	NEW BROWN KRAFT	New brown kraft, printed or unprinted.
26.	COLOURED KRAFT	New or old coloured kraft paper in various colours.
27.	NEW WET STRENGTH KRAFT	New cuttings and sleeves from manufacturers may include print, kraft wrappers from pulp with a sulphate pulp base.
28.	USED MULTIPLE PLY FEED FLOUR AND STARCH SACKS	Feed, flour and starch sacks free from sacks unsuitable for paper making, i.e. cement- may contain up to 5% wet strength.
29.	NEW KRAFT LINED CORRUGATED WASTE	Trimmings and other waste arising in the manufacture of corrugated boxes.
30.	CONTAINER WASTE	Also known as "Fibreboard Container". Used corrugated and solid fibreboard cases free of board or paper of any other description.
31.	COLOURED CARD	Printed or unprinted card waste including lined waste paper based boards.
32.	MIXED PAPER	Mixed waste paper and board, sorted for the removal of contraries.

4.7.2 SOURCES OF WASTE PAPER

Waste paper may be roughly classified into the following two groups according to the places from where these are picked.

GROUP I

Waste paper collected from government offices, business concerns, banks, newspaper and publishing companies, printing and bookbinding factories come under this group. Waste paper of this type is purchased in large quantities.

GROUP II

1. Waste paper purchased by junkmen from private persons at their homes.
2. Waste paper picked free of charge by rag pickers from the garbage heaps.

The collection of waste paper from garbage heaps provides employment to the poorest of the poor. On an average each collector picks up about 20-25 Kg of waste paper earning about Rs. 20-25 per day. In Karachi it provides employment to more than one thousand people.

In some of the mills, waste paper is an important raw material, specially for the production of wrapping paper and paper board, for which there is a great demand in the country. These have to be manufactured locally because there are no longer produced in the developed countries. Due to the low value of these products, they cannot carry the additional cost of long distance transport. Since these grades are made from cent percent waste paper, they are suitable for manufacture to meet the local demand.

In fact recycling of waste paper is a major portion of Pakistan's paper making industry, including considerable import.

1.8 WOOD PULP

The Pakistan paper and paper board industry does not use wood as raw material. It is based on pulping of agricultural residues mainly wheat straw and bagasse, kahi grass and recycling of waste paper. All the wood pulp used in the paper industry is imported.

The wood pulp imported during last five years for 1984-85 to 1988-89 is as under:

Table 4.2 Import of Wood Pulp

Year	Quantity (in tons)	Value (in million rupees)
1984-85	22,867	134.923
1985-86	20,407	123.751
1986-87	36,141	208.711
1987-88	39,372	282.701
1988-89	40,117	313.835

The details of import are given in annexure XI.

CHAPTER -5
RECOMMENDATIONS

5.1 Increase pulp wood production.

The following strategy is recommended to be adopted for increasing wood production for pulp manufacture:

- 5.1.1 In Government forests to maximise production through intensive management including planting of vacant lands;
- 5.1.2 Outside the Government forests to develop social forestry to increase production of wood on privately owned lands through a large scale planting program.

5.1.3 Achieving the objectives

For achieving these objectives, it is recommended that:

- (i) The demand and supply of wood for the pulp industry should be identified and reforestation and afforestation program be drawn on sustained yield basis. All vacant lands in Government forests should be planted.
- (ii) The planting of multi-purpose and fast growing species specially Eucalyptus camaldulensis and hybrid poplars should be encouraged. The growth studies on these two species must be continued to give reliable basic data for planning.
- (iii) The production of pulp wood should also be increased through creation of new resources.
- (iv) Improvement of nursery techniques, better pruning/cleaning and thinning practices need to be introduced. The most important factor in irrigated plantations is better water management.
- (v) Improved methods of harvesting and conservation to minimize wood loss.

- (iv) To motivate the public for planting more trees on their lands, it is necessary that in addition to supply of planting stock and technology, the farmers should also be given incentives of credit facilities/advantages and assurance of purchase of the wood grown by them.
- (vii) More efforts are needed to promote farm forestry on a massive scale. Selected areas for growing pulp producing trees such as eucalyptus & poplars should receive special attention.
- viii) Although a lot of research has been done both in E. camaldulensis and hybrid poplars but it seldom reaches the farmers, who are the main beneficiaries specially in the field of social forestry. The research on growing of pulp wood, as a package technology should be carried out to the farmer expeditiously. Further the farmers should be exposed to the development taking place in other countries.
- (xi) For increased forestry development program there is need for more allocation of funds in forestry sector. The credit facilities for growing of trees by the farmers should be provided on soft loan basis.
- (x) Methodology for bringing the suppliers/growers closure to the mill need to be developed. For this purpose the mechanism for supply and demand of Eucalyptus Camaldulensis and hybrid poplars need to be worked out.

In case of poplar the demand for match industry is to be assessed and the remaining wood alongwith shavings from the match industry need to be found. A survey of match industry wood waste, which could be utilized for pulp manufacture needs to be made.

- (xi) Forest production and management of pulp wood on private lands should be declared as an industry, and funds and loans should be advanced on priority basis.
- (xii) The most important is the development of marketing mechanism. The production costs need to be minimised so that the wood becomes acceptable to the pulp mills.

In conclusion it may be said that what is needed is to broaden the pulp wood base & develop market mechanism.

5.2 Establishment of "Wood Pulp Estates"

The pulp & paper mills are reluctant to take wood as they will have to put up new machines & set up a new production line which is uneconomical for small quantities of say 10-30 t/day.

As the production of the various paper mills is 100 t/d or less, these require less than 25 t/d of wood pulp. Every paper mill cannot have their own wood pulp plant for producing 10-30 tons/day of wood pulp.

Therefore, there should be pulp mills, each of 100 tons or more pulp capacity per day.

Establishment of "Wood Pulp Estates" over suitable land areas so as to produce wood sufficient for a 100 ton pulpmill needs serious consideration. On an average the requirement for a 100 ton pulpmill based on *Eucalyptus Camaldulensis* is about 5,000 hectares of irrigated land and no such land is available except the government forest land in the provinces of Punjab & Sindh. Therefore in these two provinces the pulp estates have to be established over government forest lands. In NWFP, however, such estates can be established by combining government forest land & private owners land for conifer pulp.

5.2.1 : Punjab

In Punjab, a pulp estate is recommended to be set up for Bahawalpur forest and the forest of Chichawatni-Shorkot which include Pirawala, Chichawatni, Kamalia & Shorkot irrigated plantations situated at a distance of 40 Km from each other.

5.2.2 : Sindh

In Sindh the pulp estates are recommended to be set up at three places:

- In Khipro Reserved Forest, where *E. camaldulensis* has either already been planted or is proposed to be planted on 5000 ha. irrigated land with 158 cusecs of perennial irrigation supply.
- In Shah Lanko, Khanani, Mairiri, Khaso, Bun Jamani, Ganji, Surjani and Hazara Reserved Forests located within 50 Km. of each other in Thatta District with an area of 4731 ha. & perennial irrigation water supply of 130.5 cuses.

- Boharki & Rari Reserved Forests located within 50 Km. of each other in Badin District & having irrigation supply of 166.6 cusecs.

5.2.3

In the NWFP, the pulp estate is recommended to be set up for 100 ton pulpmill to utilise the 'Hazara Forestry Resources', aimed at meeting the needs of the long-fiber wood pulp. Detailed studies conducted by NWFP Forest Department under World Bank assisted "Hazara Forestry Pre-Investment Project" as revised in 1982 by M/S Klockner-Stadler-Hunter Ltd. Canada will form the basis for project development. The pulp mill has been proposed to be located at some suitable place north of Mansera near confluence of Siran river with Ichhar river.

In this case incentives are to be given and strategies developed for evolving relationship with the land owners of private forests including the terms & conditions for supply of wood by the land owners. The likely market prices to be paid to the land owners and also to the NWFP Forest Department and the mechanism for reimbursing for pulp wood plantations on their land have to be worked before hand.

The industrial sector (both public & private), the provincial forest departments & the development finance institutions (DFIs) have to work together & evolve a methodology for administration, management, financing & for ensuring regular supply of wood to a pulp mill.

5.3 Updating Feasibility reports in Punjab & Sindh

5.3.1 In Punjab & Sindh

The feasibility reports prepared for manufacture of pulp from *E. camaldulensis* in the Punjab in 1985 and in Sindh in 1987 need to be updated.

5.3.2 Feasibility Study for NWFP

As a feasibility study for setting up a pulp mill based on Chir pine wood has not been prepared as yet, it would be necessary:

- To review the previous studies conducted on the subject and to determine the financial implications of any agreement with forest and landowners for establishing Pulp Wood Plantations on their land.

- To study the existing forest resources for estimating capital investment required for infrastructure and the cost of transportation operations, securing & harvesting of wood.
 - to conduct detailed market study which will provide past, current and projected future domestic consumption of major categories using all data on import, export, production and consumption, their impact on long fiber market.
 - to analyse the price structure of major grades of pulp & paper in terms of CIF prices, mill prices, and tariffs, duties, excise, taxes etc.
 - to review the existing industrial units to prepare a profile of the industry including update of the capacity, production figures, fibrous raw material resources, cost, price-structure, market outlets, distribution channels, the plans and potential for expansion and the problems which may be encountered in procurements. The profitability of the industry has also to be reviewed.
 - socio-economic assessment will be required to analyse and review their findings to utilize in final project production.
 - to formulate one or more projects designed to utilize the HAZARA FORESTRY RESOURCES- aimed at meeting the needs for the long-fiber pulp of the national industry. Comparative statements of cost and benefit for each alternative proposed will have to be prepared.
- Detailed feasibility study will have to be prepared to a standard acceptable to international financing agencies which will include:
- Site selection and site related factors,

transportation, raw material and products to and from the mill and requirement of infrastructure.

- process considerations, evaluation of selected processes and environmental aspects of the project.
- capital investments required for plantation establishment, industrial plants and logging operations.
- annual cost of plantation operations, logging and mill operations during each stage of projects development.
- the financial and economic rate of return of the project.

The general survey of sites in the project area will include:

- the selected Site for the project will be in accordance with the suitability of pulp manufacture keeping in view the geographical location with respect to existing transportation routes;
- supply of suitable process of water in terms of volume, reliability, and quality standard.
- the location and reliability of electric power source and transmission lines, and the need to expand such services to supply plant requirements;
- the likely impact of effluent discharges, both air and water born;
- on the basis of conclusions of socio-economic studies and the influence of forest management policies, pricing mechanism of pulp wood and their raw material, suggestions will have to be made of ways and means of active association of the forest owners cooperative association(s) in the mill set up with the view to involve the forest owners interest in the economic soundness of the pulp mill operation.

5.3.3 Benefits of a pulp mill

The benefits of setting up pulp mill from wood to the national economy are:

- Saving in foreign exchange,
- A pulp mill of 100 ton capacity would provide direct employment, on an average, to about 400 persons and indirect employment to a good number of transporters, specialised workers & forest producers,
- Help in socio-economic uplift of the people, where the plant is set up.

5.3.4 Integrated Forest Industry

In fact the production of pulp and paper in Pakistan should relate to a strategy of wider scope than the supply of wood alone. The emphasis should be on the development of an integrated forest industry. The value of the forest would gradually then increase and the integrated industry would provide an economic incentive to forest management.

Establishment of pulp and paper industry specially in the Punjab and NWFP has already provided pre-requisites for rural stability by reducing the migration of people from the rural area seeking employment in urban communities.

The establishment of "Pulp & Paper Estates" would go a long way in development of an integrated forest industry, providing sufficient funds for forestry development, setting up pulp mills near the source of raw material and stabilising the rural population by cutting down on migration to the urban areas.

5.4 INCREASING PRODUCTION CAPACITY OF MILLS

5.4.1 INDUSTRIAL POLICY & INCENTIVES

In fact with a strong raw material base such as wheat straw and bagasse, Pakistan has a vast potential to rapidly achieve new dimensions. But the growth has been very slow. The industrial policy should have the aim of creating a congenial environment for fostering a rapid industrial set up for pulp and paper industry, which should be declared as a "key industry" and allow various concessions and incentives.

5.4.2

Import of paper & paper board

Pulp & paper industry is a capital intensive industry with slow returns, hence the private sector has been very shy in investing in this industry. Higher costs of production coupled with no import duty or low rate of import duty and free import of paper and board, the indigenous industry ran into losses specially during the years 1974-79. The import duty on paper was 20% upto 1971. In 1972 with the separation of the Eastern wing of Pakistan (now Bangla Desh) which supplied most of the paper, the import of paper was made free of duty. The local mills could not compete & therefore some mills closed. In 1974-75 a 20% import duty was imposed on paper. In 1979, the import duty was increased to 80%. With imposition of 80% import duty, the production of paper locally became viable. The import duty needs to be maintained.

5.4.3

Salex Tax : It is also proposed that the local industry should be exempted from payment of sales tax on all pulp and paper manufactured locally. Currently the sales tax is 12½%.

5.4.4

Import duty on Capital goods.

Due to change in the parity ratio of the Pakistan rupee with the US dollar and other world currencies by about 120-140%

(during last ten years) and increased cost of machinery, Pakistan pays over 200% more on purchase of machinery. This has been detrimental to the growth of paper industry, as a paper mill requires fast moving machinery, which is quite expensive. On top of huge investment the Government has imposed duty & in 1979, the Government levied import duty of 40% on all capital goods, which was a further deterrent for new investment. Currently the duty & other charges on imported machinery are:

- import duty	----	20%	
- education cess & surcharges	----	12%	Total 32%

It is recommended that the pulp & paper industry may be declared a "key industry" with a phased program of say 10 years during which the industry may be patronised by the Government. This can be achieved by way of lowering duties on the import of machinery & imposing regulatory duties on the imported paper & board.

During this period the pulp & paper machinery should be allowed to be imported duty free both for initial installation & for BMR, irrespective of location.

A four year tax holiday is also recommended throughout Pakistan to all new pulp & paper industries & for balancing, modernisation & reconstruction (BMR).

5.5 Planning for the Future

5.5.1 Expansion of present capacities

As a first step expansion of the present capacities through a process of BMR should be undertaken. This may lead as a first step to increase in production by 20,000 to 30,000 tons of paper & paper board by spending foreign exchange very economically.

The expansion of the industry will have to take more into account the need for diversifying the industry into production of paper. The growth so far achieved in this industry has overwhelmingly carried the emphasis on the production of paper board.

Unlike developed countries, where minimum economic size of a mill is 300 tons per day, the conditions in Pakistan permits to have smaller mills even upto 10-100 tons per day, which prove economical if based on sound planning. Smaller plants also need lower capital and are easy to manage. In certain situations, it will be a good practice to set up small units, consolidate their operations and later carry out expansions in the light of experience.

5.5.2

Reconditioned plants: Paper mills in the western countries have faced economic crisis in the recent past because of increase in the cost of raw materials, labour & overheads. A large number of paper mills have been closed down due to uneconomic production of small tonnage, say between 15 to 50 tons & even 100 tons and were forced to close down.

These plants, including ones, which have not operated for more than a few years are being offered for sale for last 10 years as so. Some Eastern countries have taken full advantage of availability of second hand & reconditioned paper manufacturing machinery, which cost roughly one-tenth of the original price, India, in particular has purchased large number of such machinery and auxiliaries to supplement its paper production. It has also removed all restrictions on import of used machinery and foreign exchange requirements are met by the country's own resources. Import licenses to paper mills are issued without delay and buyers are in a position to make down payment of advance as well as the entire cost of machinery which helps them to buy used machinery at bargain price.

In Pakistan, the investors have to go through a lengthy procedure laid down by the financial institutions for foreign

exchange & complete other formalities, considerable delays takes place in grant of permission etc. and by the time this is done the secondhand or reconditioned machinery under negotiation is no more available.

In order to overcome the crisis, Government should revise all restrictions on import of used machinery for paper mills, instruct financial institutions to allocate funds on priority basis and, wherever necessary these institutions should put certain percentage of funds at the disposal of buyers immediately after scrutiny of the project.

In conclusion it may be said that the policy of deregulation and simplification of investment controls and sanctioning procedures, together with lowering or abolishing duties on import of all machinery & relief in tax payment plus protection to the production of pulp & paper locally, will greatly help in expansion & stabilization of this important industry. Improvement of operational efficiency of existing mills will of course, be an important means for increasing the production.

5.6 Establishment of a Pulp and Paper Development Board

There is a strong need to establish a "Pulp & Paper Development Board" at the federal level. The board may have representatives from:

- Ministry of Industries
- Ministry of Commerce
- Ministry of Finance
- Ministry of Food & Agriculture
- Representatives from the pulp, paper & paper board industry
- Chambers of Agriculture of Punjab, Sindh & NWFP &
- the provincial forestry departments

The proposed Board may work out a master plan for the long term development for the Pakistan's pulp paper industry. To efficiently deal with the various aspects and co-ordinate the many activities it may be necessary to establish a Pulp & Paper Development Project to be led by a Project Manager, who should have a small group of specialists and secretarial staff.

5.7 Pulp and Paper Research and Development

5.7.1 Pulp and Paper Research Institute

The pulp & paper industry, so highly significant to the culture and economy of the country, does not have a well organised and well equipped Pulp and Paper Research Institute. Some of the paper mills have their own small scale laboratories & there is also a Pulp & Paper Section attached with the Forestry Products Research Division of the Pakistan Forest Institute (PFI), Peshawar. This institute is under the Federal Ministry of Food, Agriculture and Co-operatives. Although the Pulp and Paper Section of the PFI has been supplied equipment through an assistance program by the Food and Agriculture Organisation of the United Nations but what is needed is the creation of a "National Pulp & Paper Research and Development Institute", which may be continued in the PFI Peshawar but with more equipment, well organised laboratories & highly trained personnel.

5.7.2 Training Program

The pulp & paper technologists are the back bone of the industry & they must be given incentives of foreign scholarships/training. The Government should accordingly arrange foreign training both of the personnel from the proposed Pulp & Paper Institute & also the pulp & paper mills. Local training programs also need to be arranged.

5.8 Remedial measures for the Sick industries

A major deterrent to rapid industrial growth in Pakistan is its increasing "Sick" industries & the pulp, paper & paper board industry is no exception.

The real extent of the apparently or actually sick industries is not known. But the case of Pakistan Paper Corporation Ltd. Charsadda, NWFP. is there. The mill installed in the year 1971 started production in 1972. The mill with modern machinery and with a capacity of 25,000 tons/year of pulp was designed to produce 30 tons/year of various grades of paper. The mill was financed by Pakistan Development Finance Institutions and the banks and with international financial assistance. The mill has remained closed from June, 1986 to January, 1988 and again from January 1980 to date. Liquidation proceedings have been started in the NWFP High Court, Peshawar.

Other mills, which have remained closed for long periods are:

- Jubilee Paper Board Mills Ltd. Gujranwala (Punjab)-
Capacity 15000 tons of paperboard per year.
- Sindh Paper Mills (Pvt) Ltd, P.O Shafiabad, District Thatta (Sindh)
Capacity 10,000 tons of writing & printing paper per year
Originally named as Allied Paper Mills Ltd. the mill has reopened in November 1989 after remaining closed for 15 years.
- Chilya Corrugated Board Mills Ltd, District Thatta (Sindh)
Capacity 7000 tons paper per year.
Originally named as Bada Paper Mills Ltd., the mill has reopened in January, 1990 after remaining closed for 15 years.

The immediate result of the sickness is low utilization of the installed capacity of the industries. It has been estimated that the utilization from 90% during the five years period of 1956-60 has fallen to 60% during the five years period of 1986-90.

But some argue that the capacity utilization is usually larger than declared by the industrialists or as assessed on the basis of taxation, because of tax evasion in this industry as is common in all other industries.

A sick mill makes the country lose in many ways. The fall in production or its stoppage altogether is accompanied by loss of employment. And loans from the public sector banks or development finance institutions (DFIs) are not repaid.

The country loses the taxes normally payable by them and they default in payment of the various utility bills as well. The import bill increases causing drain on the foreign exchange. The minority share holders are forced to go without their dividends, sometimes for many years. The sick mills quickly come to be used as begging on bargaining bowls for more loans, reinforced by the clamour of the workers for such assistance to keep their employment going.

The reasons for the sickness of such mills begin at their birth. Generally the machinery imported for such industries was over invoiced. Further kick backs are obtained by the sponsors of such an industry, while the land for factory was bought and construction began.

In such cases owners are not as much interested in managing their mills well and paying their dues to the various agencies as in pumping more and more funds out of the mills and abandoning them when they no longer yield large improper profits.

It is recommended that a committee be constituted with representatives from the Ministries of the Industries, Finance, and Food & Agriculture to examine the cases of sick mills.

5.9 Waste Disposal Environmental Problems

Practically all mills dump their wastes outside the mill and ultimately into the irrigation drains & the river. Arrangements have to be made that all wastes are disposed of in a manner as to minimise the environmental degradation. A study for effective disposal of pulp paper & paper board mill wastes is required to be made so as to keep the environment healthy & clean.

The Environmental Protection Agencies at the Federal and Provincial level have already been created & have started functioning. The pollution control standards are being framed & very soon action under the Pakistan Environmental Protection Ordinance, 1983 may be taken.

All mills have to strictly conform to the pollution control standards & have to install pollution control devices. It is, therefore, imperative that all new mills instal the pollution control devices from the very beginning & old ones start taking action for installation of these devices at an early stage.

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FORESTRY PLANNING AND DEVELOPMENT PROJECT

Government of Pakistan- USAID

**Volume- I
Part II- Annexures**

**WINROCK INTERNATIONAL
Technical Assistance Team**

**58, Khayaban-e-Iqbal, Margalla Road
F-7/2, Islamabad
PAKISTAN**

FORESTRY PLANNING & DEVELOPMENT PROJECT
GOVERNMENT OF PAKISTAN- USAID
SURVEY OF PULP & PAPER INDUSTRY IN PAKISTAN
VOL I PART II
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International
Pulp and
Paper
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1 9 8 9

PAKISTAN

1. ADAMJEE PAPER & BOARD MILLS LTD.

Adamjee House, 4th floor, I.I. Chundrigar Rd.
0226 Karachi, Sind, Pakistan
Phone 227731
Phone 227730
Telex 25340 ahakipk

Personnel:

Pres./Man. Dir. Abdul Hamid Adamjee
Res. & Dev. Dir. Mohammed Khan
Sec. Abid Husain
Finan. Mgr. Hafeez A. Katarwala
Sis. Mgr. A. Majid
Admin. Officer. Nabi Akhtar
Exec. Officer. Yousof Kalu
Law Officer. O. H. Alvi

Mill Locations:

Adamjee Paper & Board Mill Ltd.
Shanrahi-e-Pakistan, Nowshera NWFP
(pulp, paper & paperboard mill)

Adamjee Paper & Board Mills, Adamjee Paper & Board Ltd.

Shanrahi-e-Pakistan
Nowshera, NWFP, Pakistan
Phone 2751, 2752

Personnel:

Mill Mgr. M. Rafiuddin
Asst. Mill Mgr. Siraj-ul-Islam
Paper Mill Mgr. Muhammad Yunis
Pulp Mill Mgr. Smer Hassan Khan
Technical Mgr. Mohammed Khan
Chief Chemist. Mohammad Raliq

Total Employees at This Location:

1,545
Pulp mill employees: 245
Paper mill employees: 1,300

Type of Operation: pulp, paper,
paperboard

Pulp Grades and Capacities:

Total pulp capacity: 115,000 mt/y
Principal categories:
bagasse—4,600 mt/y
cotton—3,000 mt/y

Waste grass—8,900 mt/y

Raw Material Data:

Non-wood fiber consump.
bagasse—14,000 dry tons/yr
waste grass—11,000 dry tons/yr
waste cotton—4,000 dry tons/yr
Daily & pile consump.
Total dry days, fiber days, etc.—100

Pulp Mill Data:

Batch digesters at 11,000 mt/y
bleaching systems
24,000 mt/y at 1,000 mt/y

Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity
26,500 mt/y
Paper capacity: 5,000 mt/y
Paperboard capacity: 23,500 mt/y
Principal categories:

printing/writing—5,000 mt/y
duplex board—23,500 mt/y
Grades:
bank and bond paper, boxboard—
folding, coating base board, duplex
board, envelope paper, kraft board,
ledger, linerboard—kraft, machine-
coated board, manifold paper,
millwrapper, printing paper—offset,
pulpboard, ticket board, watermarked
paper, whitelined board

Paper and Paperboard Mill Data:

Pulpers: 4
Refiners: 9 (conical)
Paper machines:
lourd /yankee, installed 1952, rebuilt
1987, trim width 2.15 m, max. speed
120 m/min, size press, coater
fourdriner, installed 1965, trim width
2.6 m, max. speed 150 m/min

Rewinders: 2

Sheeters: 2

Supercalenders: 1

Coating equipment:

air knife off machine, installed 1965,
trim width 1.3 m, max. speed 60
m/min, cap. 6,000 mt/y

Power Plant, Water and Effluent Data:

Power boilers: 5 at 65 steam tons/hr
Fuels used: 100% gas
Turbines: 2 at 3 MW
Purchased electrical power: 2.5
MWh/day

Expansion Plans:

Board production: 6,500 mt/y increase,
\$6,380,000 cost

2. AL-QURESH BOARD MILLS LTD.

70 Industrial Estate, Kot, Lakhpat
Township
Lahore, Punjab, Pakistan

Personnel:

Pres./Man. Dir. Mohammad Ikram
Qureshi

Mill Locations:

Kotlakpat, Lahore (pulp & paper mill)

Comments:

capacity under 5,000 mt/y

3. ALI PAPER BOARD IND. LTD.

G. P. O. Box 668
Lahore, Punjab, Pakistan
Phone: 224455

Personnel:

Chmn. of the Board: Farooq Atain Butt
Pres./Man. Dir. Syed Nisar Ahmed
Prod. Mgr.: Zafar Ahmed Khan
Purch. Dir.: Saeed Soofi

Mill Locations:

Lahore (paper and paperboard mill)

Ali Paper Board Ltd.

Box 668

Lahore, Punjab, Pakistan
Phone: 224455

Mill Location: Sheikhupura

Personnel:

Technical Mgr.: Syed Nisar Ahmed
Prod. Mgr.: Zafar Ahmed Khan

Total Employees at This Location: 200

Type of Operation: paper, paperboard

Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity
10,500 mt/y

Paper capacity: 7,500 mt/y

Paperboard capacity: 3,000 mt/y

Principal categories:

printing/writing—7,500 mt/y
(total woodfree—7,500 mt/y)
folding boxboard—3,000 mt/y

Grades:

book paper, duplex board, printing
paper—offset

Paper and Paperboard Mill Data:

Pulpers: 3

Refiners: 3 (double disc)

Paper machines: 1

No. 1, combination, installed 1986, trim
width 2.2 m, max. speed 180 m/min,
size press

Rewinders: 1

Sheeters: 1

Power Plant, Water and Effluent Data:

Purchased electrical power: 30 MWh/day

BAHAWALPUR BOARD MILLS LTD.

LHR-SKP Rd.
Sheikhupura, Punjab, Pakistan
Phone: 410179
Telex: 44255 bbm-pk

Parent Company: Taj Co. Ltd.

Personnel:

Pres./Man. Dir.: Sh. Mohammad Saleem
Prod. Mgr.: Mohammad Akbar Rajput
Chief Acct.: M. Shanawaz Ch.

Mill Locations:

Sheikhupura (pulp & paper mill,
converting plant)

Bahawalpur Board Mills Ltd.

31 Km., Lahore-Sheikhupura Rd.
Sheikhupura, Punjab, Pakistan
Phone: 410179
Telex: 44255 bbm pk

Personnel:

Mill Mgr.: Mohammad Akbar Rajput
Asst. Mill Mgr.: Anwar Ul-Haq
Paper Mill Mgr.: Nazir Ahmed
Pulp Mill Mgr.: Mustaq Ahmed
Technical Mgr.: Javed Ahmed Khan
Chief Eng.: Mohammad Nazir

Total Employees at This Location: 120

Pulp mill employees: 40

Paper mill employees: 40

Pulp Grades and Capacities:

Total pulp capacity: 4,000 mt/y

Principal categories:

straw—4,000 mt/y
recycled fiber processing—2,000 mt/y

Raw Material Data:

Non-wood fiber consump.:
straw—8,000 dry tons/yr
waste paper—2,200 dry tons/yr

Pulp Mill Data:

Batch digesters: 2 at 3,000 mt/y

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 6,000 mt/y

Principal categories:

kraft linerboard—6,000 mt/y

Grades:

boxboard—folding, kraft board,
linerboard—test

Paper and Paperboard Mill Data:

Pulpers 2 (conical)
Paper machines 1
No. 1 installed 1985, trim width 2.4 m,
max. speed 100 m/min.
Rewinders 1
Sheeters 1

CENTURY PAPER & BOARD MILLS LTD.

Joh R. A. Lines Sarwar Saleem
Karachi, Sind, Pakistan
Phone 520141
Telex 23206 laksh pk

Personnel:

Chmn. of the Board: Sultan Lakhani
Pres./Man. Dir.: M. Razi Chawla
Prod. Mgr.: Khalid Saleem

Mill Locations:

Chaman Dist., Kasur (pulp, paper & paperboard mill)

Century Paper & Board Mills Ltd.
7 Ashrafzeb Block, New Garden Town
Lahore, Punjab, Pakistan
Phone 852653

Mill Location: Chaman, Kasur

Personnel:

Mr. Mgr.: Khalid Saleem

Type of Operation: paper, paperboard

Raw Material Data:

Non-wood fiber consumpt.
Wheat—1 dry tons/y

Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity
30,000 mt/y

Paper capacity 12,000 mt/y

Paperboard capacity 24,000 mt/y

Principal Categories:

printing/writing—12,000 mt/y
folding boxboard—24,000 mt/y

Grades:
board—folding, machine-coated
board, machine-coated paper, printing
paper—offset

Paper and Paperboard Mill Data:

Paper machines
Touardrmer trim width 1.5 m,
cylinder trim width 2.4 m

CHILYA CORRUGATED BOARD MILLS LTD.

8th Floor, Sheikh Sultan Trust
Building, Beaumont Road,
Karachi, Sindhi, Pakistan.
Phone: 520676
520678

Personnel:

Man. Dir.: Mr. Mahmood Ali
Prod. Mgr.: Fazal Hussain

Mill Locations:

Chilya, Thatta Dist. (pulp, paper & paperboard mill)

Chilya Corrugated Board Mills Ltd.

8th Floor, Sheikh Sultan Trust
Building, Beaumont Road,
Karachi, Sindhi, Pakistan.
Phone : 520676

Mill Location: Chilya Thatta
Sind.

Personnel:

Mill Mgr.: Fazal Hussain

Purch. Agent: Mohammed Shabir
Converting Plant Mgr.: Gamal Siddiq
Paper Mill Incharge: Mr. Tajuddin
Pulp Mill Incharge: Abdul Ghalou

Total Employees at This Location: 190

Pulp mill employees: 40

Paper mill employees: 35

Type of Operation: pulp, paper,
paperboard, converting

Pulp Grades and Capacities:

Total pulp capacity: 5,000 mt/y

Principal Categories:

bagasse—5,000 mt/y
recycled fiber processing—8,000 mt/y

Raw Material Data:

Non-wood fiber consumpt.
bagasse—5,000 dry tons/y
straw—1 dry tons/y

Pulp Mill Data:

Batch digesters: 4 at 2,500 mt/y

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 6,000 mt/y

Principal Categories:

corrugating medium—6,000 mt/y

Grades:

corrugatin; medium, linerboard—test

Paper and Paperboard Mill Data:

Pulpers: 2

Refiners: 3 (conical)

Paper machines: 1

No. 1 fourdriner installed 1973, rebuilt
1980, trim width 1.54 m, max. speed
130 m/min

Rewinders: 1

Power Plant, Water and Effluent Data:

Power boilers: 1 at 10 steam tons/hr

Fuels used: 100% oil

Purchased electrical power: 1.2

MWh/day

Effluent system

settling ponds

CITY PAPER AND CARD BOARD INDUSTRIES PVT. LTD.

Abdullah Haroon Rd., Room 2, 1st
Floor, Fard Chamber,
Karachi, Sind, Pakistan.
Phone 523120
Telex 25108 ubme pk

Personnel:

Chmn. of the Board: Ismail Haji Abbas
Patel

Pres./Man. Dir.: Muhammad Ibrahim
Patel

V.P./Deputy Man. Dir.: Muhammad Amin
Patel

Prod. Mgr.: Zaid Hussain

Sales Dir.: Muhammad Abbas Patel

Purch. Dir.: Muhammad Siddiq Patel

Dir.: Haji Muhammad Patel

Mill Locations:

Noonabad Dist., Dadu, Sind

City Paper

Abdullah Haroon Rd., 2 Fard Chambers
A-139 Karachi, Sind, Pakistan
Phone 523120

Telex 25108 ubme pk

Mill Location: A-139 Rd. No. 7, SITE

Noonabad, Dist. Dadu

Personnel:

Mill Mgr.: Zaid Hussain

Asst. Mgr.: Aslam Khan

Chief Eng.: Aslam Khan

Converting Plant Mgr.: Muhammad Abbas
Patel

Raw Material Data:

Clay & filler consumpt.

Coating stock, fiber days left

Pulp Mill Data:

Pulp Mill Data: at 7,000 mt/y

Recovery boilers: 7,000 tons/day dry
solids

Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity
7,000 mt/y

Paper capacity: 5,000 mt/y

Paperboard capacity: 2,000 mt/y

Principal Categories:

(total woodfree—5,000 mt/y)
corrugating medium—2,000 mt/y

Grades:

corrugating medium, printing paper—
offset

Paper and Paperboard Mill Data:

Pulpers: 2

Refiners: 4 (conical)

Paper machines

No. 1 fourdriner, installed 1988, trim
width 2.2 m, max. speed 180 m/min,
size press coater

Rewinders: 1

Sheeters: 1

Coating equipment

on machine, installed 1988, trim width
2.2 m, max. speed 2.4 m/min, cap
7,000 mt/y

Power Plant, Water and Effluent Data:

Power boilers: 1 at 7,000 steam tons/hr

Fuels used: 100% oil

Turbines: 31 at 1.2 MW

Effluent system

clarifiers, aerators

Expansion Plans:

Paper production: 5,000 mt/y increase

board production: 2,000 mt/y increase

Summary of expansion plans: Total
investment cost for capacity increase in
paper and board production is 2.5
million

8. DADABHOY PAPER MILLS (PVT) LTD.

Box 550
31 Karachi, Sind, Pakistan
Phone 216164
Phone 217049
Telex 23975 vawda pk

Personnel:

Chmn. of the Board: Yousuf Dadabhoi
Pres./Man. Dir.: Abdullah Y. Dadabhoi

Mill Locations:

Karachi

Comments:

capacity under 5,000 mt/y

9. FIRDAUS STRAW BOARD MILLS

Shehrah-e-Quaide Azam
Lahore, Punjab, Pakistan
Phone: 431

Personnel:

Chief Exec.: Ch. Khalid Mahmood

Mill Locations:

Gujranwala (pulp & paperboard mill)

Comments:

capacity under 5,000 mt/y

10. FLYING PAPER INDUSTRIES LTD.

16 Bridge Colony Cantt
Lahore, Punjab, Pakistan
Phone: 371655
Phone: 375671
Telex 44977 flyco pk

Personnel:

Chmn. of the Board: Gamal U. Zaidan

Prod. Mgr.: Kamal Elahi

Chief Eng.: Kamal Elahi

Mill Locations:

Lahore (paper mill)

Flying Paper Industries Ltd.

16 Bridge Colony, Lahore Cantt

Lahore, Punjab, Pakistan
 Phone: 371655
 Phone: 375671
 Telex: 44977 livco pk
Mill Location: Km. 26, Lahore
 Shekhupura Rd.
Personnel:
Mill Mgr.: Muhammad Iqbal
Chief of the Board: Abdul Qadir
Type of Operation: pulp, paper
Pulp Grades and Capacities:
 Total pulp capacity: 14,600 mt/y
 Principal categories:
 - hardwood kraft—14,600 mt/y
Raw Material Data:
 Wood: Sawmills to mill
 Pulpwood as logs or roundwood
 20,000 mt/y
Pulp Mill Data:
 Batch digester: 1
 Chippers: 1
 Batch digesters: 5
 Bleaching systems: 1
 Process sequence: Chlorine
Paper & Paperboard Grades & Capacities:
 Paper capacity: 14,000 mt/y
 Principal categories:
 - printing/writing—14,000 mt/y
 - (total woodfree)—14,000 mt/y
 Grades:
 - photographic base paper, printing paper—offset
Paper and Paperboard Mill Data:
 Pulpers: 3
 Refiners: 6 (double beat)
 Paper machines: 1
 No. 1. Fourdrinier installed 1980, trim width 2.8 m, max. speed 400 m/min, size press
 Rewinders: 1
 Sheeters: 3
Power Plant, Water and Effluent Data:
 Purchased electrical power: 3 MWh/day
Expansion Plans:
 Paper production: 8,000 mt/y increase, \$5,000,000 cost

11. GHAZI PAPER MILLS LTD.
 201 Abid Majid Rd
 Lahore Cantt. 13, Punjab, Pakistan
 Phone: 374757
 Phone: 274555
Personnel:
Pres./Man. Dir.: Malik Khadim Hussain
Mill Locations:
 Shekhupura (pulp & paper mill)

Ghazi Paper Mills Ltd.
 201-Abid Majid Rd
 13 Lahore Cantt., Punjab, Pakistan
 Phone: 374757
 Phone: 374555

Mill Location: Km. 31 Lahore-Shekhupura Rd., Shekhupura
Pulp Grades and Capacities:
 Total pulp capacity: 6,000 mt/y
 Principal categories:
 - straw—6,000 mt/y
Raw Material Data:
 Non-wood fiber consump.
 - straw—12,000 dry tons/yr
Pulp Mill Data:
 Batch digesters: 2 at 6,000 mt/y
 Bleaching systems: 1
 Process sequence: soda at 6,000 mt/y
Paper & Paperboard Grades & Capacities:
 Paper capacity: 10,200 mt/y
 Principal categories:
 - printing/writing—10,200 mt/y
 - (total woodfree)—10,200 mt/y
 Grades:

printing paper—litro, printing paper—offset
Paper and Paperboard Mill Data:
 Paper machines:
 No. 1. Fourdrinier installed 1983, trim width 2.5 m, max. speed 250 m/min

12. GHULAM QADIR STRAW BOARD MILLS
 Small Industries Estate
 Gujranwala, Punjab, Pakistan

Ghulam Qadir Straw Board Mills
 Small Industries Estate
 Gujranwala, Punjab, Pakistan
Type of Operation: paperboard

13. JUBILEE PAPERBOARD MILLS LTD.
 Box 507
 Gujranwala, Punjab, Pakistan
 Phone: 431 80223

Personnel:
Chmn. of the Board: Shatqat Rasool
Mktg. Mgr.: Muhammad Atzal
Tech. Dir.: Amjad Rasool
Chief Exec.: Khalid Rasool
Gen. Mgr.: Mr. Anjum
Mill Locations:
 Kamoke Dist., Gujranwala

Jubilee Paper board Mills Ltd.
 Box 507
 Gujranwala, Punjab, Pakistan
 Phone: 431 80223

Mill Location: G. T. Rd., Kamoke
Personnel:
Total Employees at This Location: 100
 Pulp mill employees: 50
 Paper mill employees: 40

Type of Operation: pulp, paperboard
Pulp Grades and Capacities:
 Total pulp capacity: 10,000 mt/y
 Principal categories:
 - straw—10,000 mt/y

Raw Material Data:
 Non-wood fiber consump.
 - straw—20,000 dry tons/yr

Pulp Mill Data:
 Batch digesters: 2 at 10,000 mt/y
Paper & Paperboard Grades & Capacities:
 Paperboard capacity: 15,000 mt/y
 Principal categories:
 - test linerboard—10,000 mt/y
 - folding boxboard—5,000 mt/y
 Grades:
 - boxboard—folding, duplex board, kraft board

Paper machines: 1
Paper and Paperboard Mill Data:
 No. 1. cylinder, installed 1983, trim width 3 m, max. speed 300 m/min

14. LASANI STRAW BOARD MILLS LTD.

Small Industries Estate
 Gujranwala, Punjab, Pakistan
 Phone: 42 433476
 Phone: 883988

Personnel:
Chmn. of the Board: Fida Hussain
VP/Deputy Man. Dir.: Mr. Sharif
Prod. Mgr.: Tara Hussain
Mill Locations:
 Gujranwala (pulp & paperboard mill)
Comments:
 capacity under 5,000 mt/y

15. ORIENT STRAW BOARD MILLS LTD.
 49 Napier Rd.
 Karachi 2, Sind, Pakistan
 Phone: 731918
 Phone: 731919

Personnel:
Chmn. of the Board: Abdul Gaffar Acculia
Pres. Man. Dir.: Monammad Amin Khatri
P. Deputy Man. Dir.: Abdul Majid
 Abdullah
Sec.: Ibrahim M. Dhada
Mill Locations:
 Kotri, Sind (pulp & paperboard mill)
Comments:
 capacity under 5,000 mt/y

16. PACKAGES LTD.
 Shahrah-e-Roomi, P.O. Amersidhu
 40 Lahore, Punjab, Pakistan
 Phone: 800011 16
 Phone: 375986 87
 Telex: 44866 pkgs pk

Personnel:
Chmn./Man. Dir.: Syed Waqid Ali
Advisor: Syed Babar Ali
Gen. Mgr./Dir.: Tariq Hamid
Prod. Mgr., Conv. Plant: Razi Iqbal Ahmad
Commercial Mgr.: Tanvir Ahmad
Mktg. Mgr.: M. A. Khan
Res. & Dev. Mgr.: Mughis Asghar
Dpty. Gen. Mgr.: Javed Aslam
Finan. Mgr.: Riaz-Ul-Hassan Jhauri
Mill Mgr.: M. Fasih-ul-Zaman
Tech. Mgr.: Suleman Elahi
Mill Locations:
 Lahore (pulp, paper & paperboard mill, converting plant)

Packages Ltd.
 Shahrah-e-Roomi, P.O. Amersidhu
 54774 Lahore, Punjab, Pakistan
 Phone: 800011 16
 Phone: 375986 87
 Telex: 44866 pkgs pk

Personnel:
Mill Mgr.: M. Fasih-ul-Zaman
Asst. Mill Mgr.: Mubashir Ahmad
Paper Mill Mgr.: Muhammad Haleez
Pulp Mill Mgr.: Usman Hamid
Technical Mgr.: Suleman Elahi
Chief Eng.: Sardar Mohammad Asif
Converting Plant Mgr.: Razi Iqbal Ahmad
Senior Plan. Officer: Masood Abdullah
Total Employees at This Location: 900
 Pulp mill employees: 500
 Paper mill employees: 400
Type of Operation: pulp, paper, paperboard, converting
Pulp Grades and Capacities:
 Total pulp capacity: 18,000 mt/y
 Principal categories:
 - straw—11,000 mt/y
 - other non-wood fiber pulp—7,000 mt/y
 - deinked pulp—2,500 mt/y
 - recycled fiber processing—20,000 mt/y

Raw Material Data:
 Non-wood fiber consump.:
 - straw—27,000 dry tons/yr
 - river grass—14,000 dry tons/yr
 Clay & filler consump.:
 - Coating clays, filler clays, Titanium Dioxide

Pulp Mill Data:
 Batch digesters: 8 at 45,000 mt/y
 Bleaching systems: 1
 Process sequence: CEH at 12,000 mt/y, NSSC at 6,600 mt/y
Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity: 42,500 mt/yr
 Paper capacity: 3,500 mt/yr
 Paperboard capacity: 39,000 mt/yr
 Principal categories:
 printing/writing—700 mt/yr
 Total woodfree—700 mt/yr
 packaging/industrial—2,000 mt/yr
 tissue/hygiene—800 mt/yr
 kraft linerboard—8,000 mt/yr
 corrugating medium—7,000 mt/yr
 folding boxboard—2,000 mt/yr
 Chip Board—2,000 mt/yr

Grades:
 boxboard—folding; container board
 corrugating medium; creping tissue; cup stock; duplex board; household tissue;
 kraft paper; kraft wrapping
 linerboard; kraft; photocopy base
 paper; poster paper; printing paper—18.

Paper and Paperboard Mill Data:
 Pulpers: 4
 Refiners: 7
 Paper machines:
 No. 1, combined, installed 1968, rebuilt 1983, trim width 2.7 m, max. speed 150 m/min, size press
 No. 2, fourdriner installed 1984, trim width 1.8 m, max. speed 250 m/min, size press
 No. 3, fourdriner installed 1967, rebuilt 1981, trim width 2 m, max. speed 200 m/min, size press

Rewinders: 3
 Sheeters: 1
Coating equipment:
 air knife bar installed 1984, trim width 1.5 m, max. speed 150 m/min, cap. 10,000 mt/yr

Power Plant, Water and Effluent Data:
 Power boilers: 1 at 40 steam tons/hr
 Fuels used: 20% oil, 80% gas
 Turbines: 1 at 6 MW
 Effluent system:
 water—100%

Expansion Plans:
 Board production: 2,200 mt/yr increase, \$1,500,000 cost
 Summary of expansion plans: To modify PM1 mid 1988. Expect 10% increase in capacity

17. PAKISTAN BOARD MILLS LTD.
 23/6 Faisalabad Rd.
 Sheikhupura, Punjab, Pakistan
 Phone: 4931 4108
 Phone: 4931 3636
Personnel:
 VP/Deputy Man. Dir. Arshad Ali
 Prod. Mgr. Mr. Janjua
 Chm./Chief Exec. Anjad Ali
Mill Locations:
 Sheikhupura (pulp & paperboard mill)

Pakistan Board Mills Ltd.
 23/6 Faisalabad Rd.
 Sheikhupura, Punjab, Pakistan
 Phone: 4931 4108
 Phone: 4931 3636
Personnel:
 M. Mgr. Mr. Janjua
Type of Operation: paper and
Pulp Grades and Capacities:
 Total pulp capacity: 4,000 mt/yr
 Principal categories:
 straw—2,500 mt/yr
 recycled fiber processing—2,000 mt/yr
Raw Material Data:
 Non-wood fiber consump.
 straw—5,000 dry tons/yr
 waste paper—2,200 dry tons/yr
Pulp Mill Data:

Batch digesters: 2 at 4,000 mt/yr
Paper & Paperboard Grades & Capacities:
 Paperboard capacity: 4,500 mt/yr 19.
 Principal categories:
 test linerboard
 corrugating medium
 folding boxboard
Grades:
 boxboard—folding; boxboard—rigid
 chipboard; corrugating medium
 linerboard—test; strawboard
Paper machines: 2
Paper and Paperboard Mill Data:
 No. 1, fourdriner installed 1975, trim width 1.5 m, max. speed 100 m/min
 No. 2, fourdriner installed 1984, trim width 1.4 m, max. speed 100 m/min

18. PAKISTAN PAPER CORP. LTD.
 Charsadda
 Peshawar, N.W.F.P., Pakistan
 Phone: 521 79534
 Telex: 52333 ppc pk
Personnel:
 Chief Exec. Mohammad Atzal
 Sis. Mgr. Shamul Qamar
Mill Locations:
 Charsadda Dist. Peshawar (pulp & paper mill)

Pakistan Paper Corp. Ltd.
 Division of Sarnad Development Authority
 Charsadda
 Peshawar, N.W.F.P., Pakistan
 Phone: 521 41044
 Telex: 2849 dawd pk
Personnel:
 Mill Mgr. Armanullah Khan
 Paper Mill Mgr. Mr. Moazzuddin
Total Employees at This Location: 500
 Pulp mill employees: 350
 Paper mill employees: 150
Type of Operation: pulp; paper; Caustic Soda Plant
Pulp Grades and Capacities:
 Total pulp capacity: 25,000 mt/yr
 Principal categories:
 bagasse—20,000 mt/yr
 straw—5,000 mt/yr
Raw Material Data:
 Non-wood fiber consump.
 bagasse—40,000 dry tons/yr
 straw—10,000 dry tons/yr
Pulp Mill Data:
 Batch digesters: 4 at 25,000 mt/yr
 Bleaching systems: 2
 Process sequence: Soda at 25,000 mt/yr; Soda at 25,000 mt/yr
 Evaporator lines: 2
 Recovery boilers: 2 at 10,000 tons/day dry solids

Paper & Paperboard Grades & Capacities:
 Paper capacity: 30,000 mt/yr
 Principal categories:
 printing/writing—30,000 mt/yr
 (Total woodfree—30,000 mt/yr)
Grades:
 cartridge paper; duplex board; printing paper—litho; printing paper—offset
Paper and Paperboard Mill Data:
 Paper machines:
 No. 1, fourdriner installed 1970, trim width 3 m, max. speed 150 m/min
 No. 2, fourdriner installed 1970
 Rewinders: 2
 Sheeters: 2
Power Plant, Water and Effluent Data:
 Power boilers: 3 at 55 steam tons/hr
 Fuels used: 100% gas
 Purchased electrical power: 60 MW/hr/day

Effluent system:
 clarifiers; aerators
PAKISTAN PAPER PRODUCTS LTD.
 23 Zaibunnisa St., Box 7438
 54290 Karachi, Sind, Pakistan
 Phone: 520196
 Phone: 511038
 Telex: 24692 hbs pk
Personnel:
 Chm./Pres.-Man. Dir. Hashim B. Sayeed
 VP/Deputy Man. Dir., Sis. Abbas Sayeed
 Group Chief Mgr. & Co. Sec. Mazharul Haq
Mill Locations:
 Sheikhupura (pulp & paper mill)

Mandiali Paper Mills
 Division of Pakistan Paper Products Ltd.
 Km. 20, Lahore-Sheikhupura Rd. P.O. Kot Abdul Malik
 Sheikhupura, Punjab, Pakistan
 Phone: 218251
Personnel:
 Mill Mgr. Hamid Akhtar
Total Employees at This Location: 85
 Pulp mill employees: 54
 Paper mill employees: 24
Type of Operation: pulp, paperboard converting

Pulp Grades and Capacities:
 Total pulp capacity: 3,400 mt/yr
 Principal categories:
 soda—2,200 mt/yr
 straw—3,400 mt/yr
 recycled fiber processing—2,600 mt/yr

Raw Material Data:
 Non-wood fiber consump.
 straw—7,000 dry tons/yr
 waste paper—2,800 dry tons/yr
Pulp Mill Data:
 Batch digesters: 3 at 6,000 mt/yr
Paper & Paperboard Grades & Capacities:
 Paperboard capacity: 5,400 mt/yr
 Principal categories:
 corrugating medium—5,400 mt/yr
Grades:
 corrugating medium, printing paper—litho

Paper and Paperboard Mill Data:
 Pulpers: 3
 Refiners: 3 (disc)
 Paper machines:
 No. 1, fourdriner, installed 1970, trim width 1.5 m, max. speed 140 m/n.
 Rewinders: 1
Power Plant, Water and Effluent Data
 Fuels used: 100% gas

20. PREMIER PAPER MILLS LTD.
 Km. 7.5, Lahore Rd., PO Kot Saleem
 Sheikhupura, Punjab, Pakistan
 Phone: 4931
 Phone: 4332
Personnel:
 Chm. of the Board Sheikh Zahoor A.
 VP Purch. & Sis. Sheikh Manzoor A.
 Prod. Mgr. Mr. Razzak
 Sales Dir. Malik Atiq Ur Rehman
 Dir. Altaf Qureshi
 Dir. Shaukat Ali
 Dir. Mian Atiq
Mill Locations:
 Sheikhupura (pulp & paper mill)

Premier Paper Mills Ltd.
 Km. 7.5, Lahore Rd., P.O. Kot Saleem
 Sheikhupura, Punjab, Pakistan



Phone 4332
Phone 4931
Personnel:
Mill Mgr. Mr. Raza
Production Agent/Shift Manager Mr. A. J. Khan
Total Employees at This Location: 150

Type of Operation: Paperboard

Pulp Grades and Capacities:

Total pulp capacity: 7,000 mt/y

Principal categories:

straw—7,000 mt/y

Raw Material Data:

Non-wood fiber consump-

tion—14,000 dry tons/yr

Pulp Mill Data:

Batch digesters: 3 at 7,000 mt/y

bleaching systems: 2

Process sequence: Soda at 7,000 mt/y.

Soda

Paper & Paperboard Grades & Capacities:

Paper capacity: 10,000 mt/y

Principal categories:

printing/writing—10,000 mt/y

(total woodfree—10,000 mt/y)

Grades:

printing paper—info. printing paper—

coast

Paper and Paperboard Mill Data:

Paper machines:

No. 1, 4-drummer, installed 1985, trim

width 2.1 m, max. speed 300 m/min

Sheeters: 2

Supercalenders: 1

Supercalenders: 1

21. PUNJAB BOARD MILLS LTD.

Sheikhupura Rd.

Sheikhupura, Punjab, Pakistan

Punjab Board Mills Ltd.

Sheikhupura Rd.

Sheikhupura, Punjab, Pakistan

Type of Operation: Paperboard

22. QADRIA BOARD MILLS LTD.

Km. 31 Sheikhupura Rd.

Lahore, Punjab, Pakistan

Phone: 301324

Telex: 44430 sam pk

Personnel:

Chmn. of the Board: Syed Mahmood

Pres./Man. Dir.: Sharafat Khan

Prod. Mgr.: Ijaz Ahmad

Chief Acct.: Riaz Ahmed

Business Mgr.: Niaz Sakhawat Ali

Mill Locations:

Sheikhupura (pulp & paperboard mill)

Sheikhupura (pulp & paperboard mill)

Qadria Board Mills Ltd.

Km. 31, Sheikhupura Rd.

Lahore, Punjab, Pakistan

Phone: 301324

Personnel:

Mill Mgr.: Nazeer Ahmed Bhatti

Technical Mgr.: Ijaz Ahmed

Office Mgr.: Syed Ghent Shah

Plant Officer: A. J. Khan

Total Employees at This Location: 150

Pulp mill employees: 30

Paper mill employees: 20

Pulp Grades and Capacities:

Total pulp capacity: 2,000 mt/y

Principal categories:

straw—2,000 mt/y

Raw Material Data:

Non-wood fiber consump-

tion—4,000 dry tons/yr

waste paper—1,000 dry tons/yr

Pulp Mill Data:

Batch digesters: 2 at 5,000 mt/y

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 4,000 mt/y

Principal categories:

test linerboard

folded boxboard

folded boxboard

23. SAMPAK PAPER & BOARD MILLS LTD.

Km. 31 Sheikhupura Rd.

Lahore, Punjab, Pakistan

Phone: 301324

Phone: 302325

Telex: 44430 sam pk

Personnel:

Pres./Man. Dir.: Mohammad Maghtouf

Prod. Mgr.: Mahboob Ali

Sis. Mgr.: Mozaffar Iqbal

Mill Locations:

Sheikhupura (pulp, paper & paperboard mill)

(mill)

Sampak Paper & Board Mills Ltd.

Km. 31 Sheikhupura Rd.

Lahore, Punjab, Pakistan

Phone: 301324

Phone: 302325

Telex: 44430 sam pk

Personnel:

Mill Mgr.: Mahboob Ali

Total Employees at This Location: 200

Pulp mill employees: 100

Paper mill employees: 70

Type of Operation: pulp, paperboard

Pulp Grades and Capacities:

Total pulp capacity: 12,000 mt/y

Principal categories:

straw—12,000 mt/y

—2,000 mt/y

Pulp Mill Data:

Batch digesters: 3 at 3,000 mt/y

bleaching systems: 1

Process sequence: Soda, mt/y

Paper & Paperboard Grades & Capacities:

Total paper and paperboard capacity:

14,000 mt/y

Paper capacity: 2,000 mt/y

Paperboard capacity: 12,000 mt/y

Principal categories:

printing/writing—2,000 mt/y

test linerboard—2,000 mt/y

folded boxboard—10,000 mt/y

Grades:

boxboard—folding, duplex board, kraft

board

Paper and Paperboard Mill Data:

Paper machines:

fourdriner, installed 1983, trim width

2.2 m, max. speed 200 m/min

24. SAYID PAPER MILLS

37-L Gulberg III

Lahore, Punjab, Pakistan

Phone: 873636

Phone: 882240

Personnel:

Chmn. of the Board: W. M. Sayid

Sales Dir.: Mr. Bukhari

Mill Locations:

Sheikhupura (pulp & paperboard mill)

Comments:

capacity under 5,000 mt/y

25. SECURITY PAPERS LTD.

Rm. 9-10, Hotel Metropole

Karachi, Sindh, Pakistan

Phone: 512766

Telex: 2796 pspc pk

Personnel:

Chmn. of the Board: M. Hasan Jafar

Prod. Mgr.: Abdul Warab

Genl. Sec.: Amir Ahmad Khan

Prod. Mgr.: Mr. Yashani

Chief Acct.: Abdul Rouf M. M. Wala

Mill Locations:

Karachi (pulp & paper mill)

Security Papers Ltd.

Annah Ave., Malir

27 Karachi, Sindh, Pakistan

Phone: 481281

Phone: 481282

Personnel:

Mill Mgr.: M. A. Wahab

Total Employees at This Location: 150

Pulp mill employees: 80

paper mill employees: 70

Type of Operation: pulp, paper

Pulp Grades and Capacities:

Total pulp capacity: 1,500 mt/y

Principal categories:

cotton—500 mt/y

rag—1,000 mt/y

Pulp Mill Data:

Batch digesters: 2 at 1,500 mt/y

Paper & Paperboard Grades & Capacities:

Paper capacity: 1,500 mt/y

Principal categories:

currency paper—1,500 mt/y

Grades:

banknote paper, currency paper, rag

paper

Paper and Paperboard Mill Data:

Paper machines:

No. 1, fourdriner, installed 1965, rebuilt

1973, trim width 2.2 m, max. speed

50 m/min, size press

Sheeters: 1

Supercalenders: 1

Power Plant, Water and Effluent Data:

Power boilers: 2

26. SETHI STRAW BOARD MILLS LTD.

Rahwali

Gujranwala, Punjab, Pakistan

Personnel:

Chmn. of the Board: Younus Sethi

Pres./Man. Dir.: Mohammad Amin Sethi

VP/Deputy Man. Dir.: Zahid Sethi

Mill Locations:

Rahwali, Gujranwala (pulp & paperboard

mill)

Sethi Straw Board Mills Ltd.

Rahwali

Gujranwala, Punjab, Pakistan

Type of Operation: paperboard

Pulp Grades and Capacities:

Total pulp capacity: 6,000 mt/y

Principal categories:

recycled fiber processing—3,000 mt/y

Raw Material Data:

Non-wood fiber consump-

tion—bagasse—12,000 dry tons/yr

waste paper—3,500 dry tons/yr

Pulp Mill Data:

Batch digesters: 2 at 6,000 mt/y

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 8,000 mt/y

Principal categories:

strawboard—8,000 mt/y

Grades:

chipboard, strawboard

Paper and Paperboard Mill Data:

Paper machines:

No. 1, installed 1955, trim width 2.25 m,

max. speed 200 m/min

Pulp & Paper Mills

Rewinders: 1
 Finishes: 1
Mill Status:
 Mod. inside

SHALIMAR PAPERS LTD.

5 Main Gulberg Rd
 Lahore, Punjab, Pakistan
 Phone 68935
 Phone 312103
 Telex 44814 chn.pk

Personnel:

Chmn. of the Board Mohammad Aslam Khan
Pres / Man Dir. M. Zatarullah Khan
Prod. Mgr. Tariq Khalid Mian

Mill Locations:

Lahore (pulp & paperboard mill)

Shalimar Papers Ltd.

29

5 Main Gulberg Rd
 Lahore, Punjab, Pakistan
 Phone 68935
 Phone 312103
 Telex 44814 chn.pk

Personnel:

Man. Mgr. Tariq Khalid Mian

Total Employees at This Location: 150

Pulp mill employees: 80

Paper mill employees: 70

Type of Operation: paper

Pulp Grades and Capacities:

Total pulp capacity: 10,000 mt/yr

Principal categories:

straw—7,000 mt/yr

other non-wood fiber pulp—3,000 mt/yr

Raw Material Data:

Non-wood fiber consump.

straw—14,000 dry tons/yr

Waste paper—3,500 dry tons/yr

Pulp Mill Data:

Batch digesters: 2 at 7,000 mt/yr

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 12,000 mt/yr

Grades:

corrugating medium, kraft board
 linerboard—tes.

Paper and Paperboard Mill Data:

Paper machines:

No. 1, fourdrinier installed 1982, rebuilt 1982, trim. width 2.45 m, max. speed 80 m/min

STAR PAPER MILLS (PVT.) LTD.

G-4 Site
 76010 Kotri, Sind, Pakistan
 Phone 51455
 Phone 51235

Personnel:

Chmn. of the Board Haji Nawal Khan

V.P. Res. & Dev. Haji Khan

Prod. Mgr. Abdul Hasid Khan

Sales Dir. Haji Jahandad Khan

Purch. Dir. Shah Ummer Khan

Mill Locations:

Kotri (pulp & paperboard mill)

Star Paper Mills Pvt. Ltd.

76010 Kotri, Sind, Pakistan
 Phone 51455

Personnel:

Man. Mgr. Nazeer Ahmad

Type of Operation: pulp & paper

Pulp Grades and Capacities:

Total pulp capacity: 2,000 mt/yr

Principal categories:

straw—2,000 mt/yr

recycled fiber processing—3,000 mt/yr

Raw Material Data:

Non-wood fiber consump.

straw—4,000 dry tons/yr

Pulp Mill Data:

Batch digesters: 2 at 5,000 mt/yr

Paper & Paperboard Grades & Capacities:

Paperboard capacity: 5,000 mt/yr

Principal categories:

corrugating medium—3,000 mt/yr

strawboard—2,000 mt/yr

Grades:

corrugating medium, strawboard

Paper and Paperboard Mill Data:

Pulpers: 3

Reiners: 2 (double disc)

Paper machines:

No. 1 fourdrinier, installed 1983 trim

width 2.14 m, max. speed 75 m/min

Rewinders: 1

Power Plant, Water and Effluent Dis.

Fuels used: 100% gas

SULTAN PAPER BOARD MILLS LTD.

18-A, Small Industries Estate
 Gujranwala, Punjab, Pakistan
 Phone 82199

Personnel:

Pres / Man Dir. Ch. Mohammad Rafiq

Mill Locations:

Gujranwala (pulp & paperboard mill)

Comments:

capacity under 5,000 mt/yr

THAL PAPER INDUSTRIES LTD.

42-C-I Gulberg III
 Lahore, Punjab, Pakistan

Mill Locations:

Jauharabad (paper mill)

Thal Paper Industries Ltd.

42-C-I Gulberg III
 Lahore, Punjab, Pakistan

Mill Location: Jauharabad, Punjab

Type of Operation: paper

Paper & Paperboard Grades & Capacities:

Paper capacity: 17,000 mt/yr

Principal categories:

newsprint—17,000 mt/yr

Grades:

newsprint

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MBMC

Pulp & Paper Directory of Asia/Pacific

1990

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Chris Wild

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Overseas, Sri Lanka, Burma
Marketing, Hong Kong

Kawerau Mill
Hector Avenue, Kawerau, Bay of
Plenty
TELEPHONE: 76 33999
FAX: 76 33150
TELEX: 61991
EXECUTIVES: Mr Keith Purchase,
Director of Operations
Mr Bob Pollock, Pulp Mill Manager
Mr Bruce Whitcher, Newsprint
Division Manager
Mr Ian Hooper, Chief Engineer
RAW MATERIALS: Softwood
CAPACITY (t/yr) - P&B 335,000
Pulp 200,000
MAIN GRADES: Bleached chemical
market pulp (135,000 t/yr)
Bleached chemical market pulp
(25,000 t/yr) Newsprint
EXPANSION PLANS: Pulp mill
modernisation to be completed by
1990. Capital investment of
NZ\$220 million will raise market
pulp capacity to 200,000 t/yr, with
bleached grades up from 75,000 to
135,000 t/yr

**WINSTONE PULP
INTERNATIONAL LTD**

A-100 2950 Symonds Street
Auckland
TELEPHONE: 4352 1187
FAX: 4352 1182
TELEX: 61169
EXECUTIVES: Mr Klas Kronqvist,
Managing Director
Mr Kit Wilson, General Manager
Mr Simon Bordon, Marketing
Manager
Mr Warren Evans, Sales Manager
Mr Fraser Thornley, Company
Secretary
Mr Ted Harbour, Distribution
Manager
MILLS: Karioi Mill
GRADES: CTMP, TMP
OUTLETS: Ekman, Australia &
Japan, Link Engineers, India
Mitsubishi, Indonesia, China
Nipponal Pulp & Paper, China
CelmMark, Taiwan & Korea

Karioi Mill
PO Box 48, State Highway 49,
Otago
TELEPHONE: 658 5655
FAX: 658 5627
TELEX: 61169
EXECUTIVES: Mr Dave Anderson,
Mill Manager
Mr Philip Collins, Pulp Mill
Superintendent
Mr Malcolm Cotter, Electrical
Superintendent
Mr Steven Ikin, Mechanical
Superintendent

Mr Philip Wilson, Technical
Superintendent
RAW MATERIALS: Softwood
CAPACITY (t/yr) - Pulp 120,000
MAIN GRADES: TMP/CTMP

PAKISTAN

**1. ADAMJEE PAPER &
BOARD MILLS LTD**

PO Box 432, 4 F Adamjee House,
11 Chundiqar Road, Karachi 0226
TELEPHONE: 21-241 2293
FAX: 21-241 9284
TELEX: 25340
EXECUTIVES: Mr Abdul Hameed
Adamjee, Managing Director
Mr Abid Husain, Company Secretary
Mr M Raluddin, General Manager
Mr M H Pyar Ali, Finance Manager
Mr Abdul Majeed, Sales Manager
Mr Nadeem Akhtar Qureshi,
Administrative Officer
Mr M Yusuf Kalu, Executive Officer
Mr Mohammad Khan, Technical
Manager
Mr Younus Manshi, Sales Officer
Mr Muhammad Moina, Sales Officer
MILLS: Nowshera Mill
GRADES: Printings/writings
Paperboard, Duplex board.

Nowshera Mill
Shahjahan Pakistan, Nowshera,
NWFP
TELEPHONE: 5231 2751
EXECUTIVES: Mr Muhammad
Rahuddin, Mill Manager
Mr Sher Hasan Khan, Production
Manager
Mr Mohammad Khan, Chief
Engineer
Mr Amanullah Khan, Pulp Mill
Manager
RAW MATERIALS: Softwood
Hardwood Wastepaper Bamboo
Bagasse
CAPACITY (t/yr) - P&B 50,000
MAIN GRADES: Unbleached
chemical pulp for own use
Printings/writings (23,000 t/yr)
Paperboard (27,000 t/yr)

**2. ALI PAPER BOARD
INDUSTRIES LTD**

GPO Box 148, Lahore
TELEPHONE: 42-224 455
EXECUTIVES: Mr Sheikh Farooq
Alam Butt, Managing Director
Mr S Nasir Ahmed, Director
MILLS: Sheikhpura Mill
GRADES: Printings/writings

**3. AL-QURESHI BOARD
MILLS LTD**

70 Industrial Estate, Kot Lakhpat 6,
Township, Lahore
TELEPHONE: 42-841 770
TELEX: 44134
EXECUTIVES: Mr Mohammad
Ikram Qureshi, Managing Director
MILLS: Al-Qureshi Board Mill
GRADES: Packaging paper
Containerboard Paperboard

Al-Qureshi Board Mill
70 Industrial Estate, Kot Lakhpat
Township, Lahore
TELEPHONE: 42-8232
RAW MATERIALS: Wastepaper
Wheat straw
CAPACITY (t/yr) - P&B 4,000
MAIN GRADES: Packaging paper
Corrugating grades Paperboard

**4. BAHAWALPUR BOARD
MILLS LTD**

7-B Agro Square, Main Market, 7-
Shadman, Lahore
TELEPHONE: 42-410 179
TELEX: 44255
EXECUTIVES: Mr Sheikh
Muhammad Saleem, Managing
Director
MILLS: Bahawalpur Board Mill
GRADES: Containerboard
Paperboard Duplex board
Kraftliner

Bahawalpur Board Mill
7-B Agro Square, Main Market,
Shadman, Lahore
TELEPHONE: 42-8232
RAW MATERIALS: Wastepaper
CAPACITY (t/yr) - P&B 6,000
MAIN GRADES: Corrugating
grades Paperboard

**5. CENTURY PAPER &
BOARD MILLS LTD**

265, RA Lines Sarwar Shahood
Road, Karachi
TELEPHONE: 21-570 141
TELEX: 23206
EXECUTIVES: Mr M Rabi Chawala,
Chief Executive
MILLS: Karachi Mill
GRADES: Containerboard
Paperboard Straw board

Karachi Mill
Karachi
TELEPHONE: 21-520 141
EXECUTIVES: Mr Khalid Saleem,
Mill Manager
RAW MATERIALS: Wastepaper,
Purchased pulp Wheat straw
CAPACITY (t/yr) - P&B 36,000
EXPANSION PLANS: Due to start
up in 1989

**6. CHILYA CORRUGATED
BOARD MILLS LTD**

PO Box 5121, 58 West Wharf
Road, 3/F Karachi Dock Labour
Board Building, Karachi 2
TELEPHONE: 21-201 524
TELEX: 24660
EXECUTIVES: Mr Yaqub Haji
Karim, Managing Director
MILLS: Chilya (Thatta) Mill
GRADES: Containerboard
Paperboard Corrugating medium

Chilya Mill
Chilya, Dist Thatta, Sind
TELEPHONE: Chilya 649
RAW MATERIALS: Wastepaper,
Wheat straw
CAPACITY (t/yr) - P&B 6,000
MAIN GRADES: Corrugating
grades Paperboard

**CITY PAPER & CARD
BOARD IND PTE LTD**

Room No 2, 1/F, Farid Chambers,
Abdullah Haroon Road, Karachi
TELEPHONE: 21-523 120
EXECUTIVES: Mr Patel
Muhammad Ibrahim, Chief
Executive
Mr Patel Haji Ismail, Chairman
MILLS: Noorabad Mill
GRADES: Printings/writings
Packaging paper Containerboard
Paperboard

Noorabad Mill
A-139 SITE, Noorabad, Dist Dadu,
Sind
EXECUTIVES: Mr Haji Muhammad
Amin, Production Director
Mr Abdul Rashid, Production
Manager
Mr Muhammad Abbas, Sales
Director
RAW MATERIALS: Wastepaper
Purchased pulp
CAPACITY (t/yr) - P&B 7,000
MAIN GRADES: Printings/writings
Packaging paper Containerboard
Paperboard

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PAKISTAN

PULP & PAPER PRODUCERS

8. DADABHOY PAPER MILLS PTE LTD

GPO Box 551, Karachi 0129
TELEPHONE 21 216 164
TELEX 23975
EXECUTIVES: Mr Abdullah Y
Dadabhoi, Managing Director
MILLS: Karachi Mill
GRADES: Containerboard
Paperboard, Corrugating medium,
Kraft wrapping paper

Karachi Mill

Plot 8, Sector 29, Korangi Industrial
Zone, Karachi 6129
TELEPHONE 21 330 168
TELEX 23975
RAW MATERIALS: Jute rags,
Waste paper
CAPACITY (t/yr) - P&B 1,500
MAIN GRADES: Packaging papers,
Corrugating grades

9. FIRDAUS STRAW BOARD MILLS LTD

Shahrahe-Quaid-e-Azam, Lahore
TELEPHONE 431
EXECUTIVES: Ch Khalid
Mahmood, Managing Director
MILLS: Gujranwala Mill
GRADES: Semi-chemical pulp
Containerboard, Paperboard,
Straw board

Gujranwala Mill

GI Road, Gujranwala, Punjab
TELEPHONE 431 51501
RAW MATERIALS: Waste paper,
Wheat straw
CAPACITY (t/yr) - P&B 1,000
MAIN GRADES: Semi-chemical
pulp, Corrugating grades,
Paperboard

10. FLYING BOARD & PAPER PRODUCTS LTD

16 Bridge Colony, Lahore Cantt
TELEPHONE 42 371 655
TELEX 44977
EXECUTIVES: Mr Kamran Khan,
Chief Executive
Mr Qamar Uz Zaman, Director
Mr Imran Qamar, Director
Mr Mumtaz Qamar, Director
MILLS: Sheikhupura Mill
GRADES: Art paper, Embossed
paper and board, Extensible
paper, Kraft sack paper, Label
paper, Wrapping tissue

Sheikhupura Mill

26 km Lahore-Sheikhupura Road,
Dist Sheikhupura, Punjab
TELEPHONE 4931-8244

EXECUTIVES: Mr Khalid Saif,
Sales Manager
RAW MATERIALS: Sulfite wood,
Hardwood, Waste paper
Purchased pulp
CAPACITY (t/yr) - P&B 30,000
MAIN GRADES: Printings/writings
Packaging paper, Speciality
papers
EXPANSION PLANS: New mill due
to start by end-1989

FLYING PAPER INDUSTRIES LTD

16 Bridge Colony, Lahore Cantt,
TELEPHONE 42-371 655
TELEX 44977

EXECUTIVES: Mr

Qamar Uz Zaman, Managing
Director
Mr Imran Qamar, Director
Mr Kamran Khan, Director
MILLS: Sheikhupura Mill
GRADES: Printings/writings
OUTLTS: Flying Paper Industries,
Pakistan

Sheikhupura Mill

26 km, Lahore-Sheikhupura Road,
Dist Sheikhupura,
TELEPHONE 4931 8244
TELEX 44977

EXECUTIVES: Mr H Park, Mill

Manager
Mr Khalid Saif, Sales Manager
RAW MATERIALS: Waste paper,
Purchased pulp
CAPACITY (t/yr) - P&B 20,000
MAIN GRADES: Printings/writings

11. GHAZI PAPER MILLS LTD

31 km Lahore-Sheikhupura Road,
Sheikhupura, Punjab
TELEPHONE 42 302 325
EXECUTIVES: Mr Syed
Muhammad Mughkur, Managing
Director
MILLS: Sheikhupura Mill
GRADES: Printings/writings

Sheikhupura Mill

31 km Lahore-Sheikhupura Road,
Sheikhupura,
RAW MATERIALS: Purchased
pulp, Wheat straw
CAPACITY (t/yr) - P&B 10,500
MAIN GRADES: Printings/writings

12. GHULAM QADIR STRAW BOARD MILLS

Small Industries Estate,
Gujranwala, Punjab
MILLS: Gujranwala Mill
GRADES: Containerboard,
Paperboard

Gujranwala Mill

Small Industries Estate,
Gujranwala, Punjab
CAPACITY (t/yr) - P&B 10,000
MAIN GRADES: Corrugating
grades, Paperboard

13. JUBILEE PAPER BOARD MILLS LTD

PO Box 567, Gujranwala, Punjab
TELEPHONE 431-80223
EXECUTIVES: Mr Khalid Rasool,
Managing Director
MILLS: Gujranwala Mill
GRADES: Paperboard, Chipboard,
Grey board, Straw board,
Whiteline chipboard

Gujranwala Mill

GI Road, Kamoke, Dist
Gujranwala, Punjab
TELEPHONE 431 80223
EXECUTIVES: Mr Nasir Zahoor,
Mill Manager
RAW MATERIALS: Waste paper,
Straw, Purchased pulp
CAPACITY (t/yr) - P&B 1,500
MAIN GRADES: Corrugating
grades, Paperboard

14. LASANI STRAW BOARD MILLS LTD

Small Industries Estate,
Gujranwala
TELEPHONE 42 413 476
EXECUTIVES: Mr Fala Hussain
Shah, Managing Director
MILLS: Gujranwala Mill
GRADES: Containerboard,
Paperboard, Chipboard,
Corrugating medium, Straw board

Gujranwala Mill

Small Industries Estate,
Gujranwala, Punjab
TELEPHONE 431 80471
EXECUTIVES: Mr Tahir Hussain,
Joint Mill Manager
Mr Fala Hussain, Joint Mill Manager
RAW MATERIALS: Waste paper,
Wheat straw
CAPACITY (t/yr) - P&B 2,000
MAIN GRADES: Corrugating
grades, Paperboard

15. MANDIALI PAPER MILLS (PVT) LTD

21 km Lahore-Sheikhupura
Road, PO of Abdul Malik, Dist
Sheikhupura
TELEPHONE 42 218 216
TELEX 44073
EXECUTIVES: Mr Malik Atiqur
Rahman, Director

MILLS: Mandiali Mill
GRADES:

Mandiali Mill

Mandiali Dist, Sheikhupura
TELEPHONE 42-710 551
RAW MATERIALS: Wheat straw,
Waste paper
CAPACITY (t/yr) - P&B 7,500
MAIN GRADES: Printings/writings
(2,500 t/yr), Corrugating paper
(5,000 t/yr)

16. MEHAR PAPER MILLS LTD

14 Saeed House, Dr Ziauddin
Ahmed Road, Karachi
TELEPHONE 21-219 171
TELEX 24608
EXECUTIVES: Mr Mohammad
Saleem Malik, Managing Director
MILLS: Sheikhupura Mill
GRADES: Printings/writings

Sheikhupura Mill

10 km Faisalabad Road,
Sheikhupura,
RAW MATERIALS: Straw, Kahu
grass
CAPACITY (t/yr) - P&B 21,000
MAIN GRADES: Printings/writings
EXPANSION PLANS: Planning
stage

17. ORIENT STRAW BOARD & PAPER MILLS LTD

49 Napier Road, Karachi
TELEPHONE 21-731 918
EXECUTIVES: Mr Mohammad
Amin Khatri, Managing Director
MILLS: Kotri Mill (Hyderabad)
GRADES: Paperboard, Chipboard,
Grey board

Kotri Mill (Hyderabad)

Potaro Head, Near Telegraph
Colony, Kotri
TELEPHONE 50170
EXECUTIVES: Mr A Kassim, Mill
Manager
RAW MATERIALS: Straw
CAPACITY (t/yr) - P&B 3,000
MAIN GRADES: Paperboard

18. PACKAGES LTD

Shahrah-e-Rouni, PO Amersdhu,
Lahore 54770
TELEPHONE 42-800 011
TELEX 44866
EXECUTIVES: Mr Tariq Hamid,
Managing Director
MILLS: Lahore Mill
GRADES: Printings/writings,
Packaging paper, Containerboard,
Paperboard, Speciality papers,
Duplex board, Kraft board

Lahore Mill
 Shafiq Road, Lahore 40
 TELEPHONE 42 601 181
 EXECUTIVES: Mr. Anwar Zaman
 Mill Manager
 RAW MATERIALS: Waste paper
 Purchased pulp, Wheat straw
 CAPACITY (T/yr) - P&B 42,000
 MAIN GRADES: Printings/writings,
 Packaging papers, Corrugating
 grades, Paperboard, Hygienic
 paper, Specialty papers

19. PAKISTAN BOARD MILLS LTD

206 Faisalabad Road
 Sheikhpura, Punjab
 TELEPHONE 4931 4108
 EXECUTIVES: Mr. Sheikh Anjum
 Managing Director
 MILLS: Sheikhpura Mill
 GRADES: Paperboard, Chipboard,
 Straw board

Sheikhpura Mill

206 Faisalabad Road
 Sheikhpura, Punjab
 TELEPHONE 4931 4108
 EXECUTIVES: Mr. Arshad Ali, Mill
 Manager
 RAW MATERIALS: Wheat straw,
 Waste paper
 CAPACITY (T/yr) - P&B 1,500
 MAIN GRADES: Corrugating
 grades, Paperboard

20. PAKISTAN PAPER CORP LTD

Chakrakla, Dist. Peshawar,
 TELEPHONE 525 934
 TELEX 54333
 EXECUTIVES: Mr. Mohammed
 Akbar, Managing Director
 MILLS: Chakrakla Mill
 GRADES: Printings/writings

Charsadda Mill

Charsadda, Peshawar, NWFP
 TELEPHONE 542934
 RAW MATERIALS: Waste paper,
 Bagasse, Kahi grass
 CAPACITY (T/yr) - P&B 30,000
 MAIN GRADES: Printings/writings

21. PAKISTAN PAPER PRODUCTS LTD

Section 74/38, 23 Zaborinaba Street
 Karachi 74400
 TELEPHONE 21 520 156
 TELEX 24052
 EXECUTIVES: Mr. Iqbal Bin
 Ahmed, Chief Executive
 Mr. Abbas Saeed, Director
 Mr. Muzaffar Hafeez, Secretary

Mr. Muhd Zainul Abedin Sajjad,
 Accountant
 MILLS: Mandial Paper Mills
 GRADES: Printings/writings,
 Containerboard, Corrugating
 medium
 OFFICE: Zang Trading, Pakistan

Mandial Paper Mills

21 Km Lahore Road, PO Kot Akhbar
 Mandial, Sheikhpura, Punjab
 TELEPHONE 42 710 251
 EXECUTIVES: Mr. Sheikh Manzoor
 Ali, Mill Manager
 Mr. Hamid Anwar, Production
 Manager

RAW MATERIALS: Waste paper,
 Wheat straw
 CAPACITY (T/yr) - P&B 6,000 Pulp
 1,000

MAIN GRADES: Corrugating
 grades
 GRADE DETAILS: Corrugating
 medium
 EXPANSION PLANS: Making ready
 to produce white printings/writings
 and to increase capacity by
 another 6,000 T/yr

22. PAKLAND PAPER LTD

Trade Centre, A 1 Block 7B, KCHS,
 Kala Ab
 TELEPHONE 41 430 143
 TELEX 41073
 EXECUTIVES: Mr. Mohsin Siddiqi,
 Managing Director
 MILLS: Thatta Mill
 GRADES: Packaging paper,
 Containerboard, Paperboard

Thatta Mill

Thatta
 TELEPHONE 41
 EXECUTIVES: Mr. M. M. Abdullah,
 Mill Manager
 CAPACITY (T/yr) - P&B 30,000
 MAIN GRADES: Packaging papers,
 Corrugating grades, Paperboard
 EXPANSION PLANS: Mill under
 construction

23. POLY PAPER & BOARD MILLS (PVT) LTD

16 Bridge Colony, Lahore Cantt
 TELEPHONE 42 211 152
 TELEX 44977
 EXECUTIVES: Mr. Imran Qamar,
 Chief Executive
 Mr. Qamar Uz Zaman, Director
 Mr. Momin Qamar, Director
 Mr. Kamran Khan, Director
 MILLS: Sheikhpura Mill
 GRADES: Household paper
 products, Specialty papers,
 Creeping tissue, Industrial tissue,
 MG paper

Sheikhpura Mill

17 Km Sheikhpura Faisalabad
 Road, Sheikhpura, Punjab
 TELEPHONE 4931 8244
 EXECUTIVES: Mr. Khalid Sait,
 Sales Manager
 RAW MATERIALS: Softwood
 Hardwood, Waste paper
 Purchased pulp
 CAPACITY (T/yr) - P&B 5,000
 MAIN GRADES: Hygienic paper,
 Specialty papers
 EXPANSION PLANS: New mill due
 to start up by end 1989

24. PREMIER PAPER MILLS LTD

75 Km Lahore Road, Sheikhpura
 TELEPHONE 4931 4332
 EXECUTIVES: Mr. Zahoor Ali,
 Managing Director
 Mr. Shaikat Ali, Director
 MILLS: Sheikhpura Mill
 GRADES: Printings/writings

Sheikhpura Mill

75 Km Lahore Road, Sheikhpura,
 TELEPHONE 4931
 EXECUTIVES: Mr. Hazzak, Mill
 Manager
 RAW MATERIALS: Wheat straw,
 Purchased pulp
 CAPACITY (T/yr) - P&B 10,500
 MAIN GRADES: Printings/writings

25. PUNJAB BOARD MILLS LTD

Sheikhpura Road, Sheikhpura,
 Punjab
 MILLS: Sheikhpura Mill
 GRADES: Containerboard,
 Paperboard

Sheikhpura Mill

Sheikhpura Road, Sheikhpura,
 Punjab
 CAPACITY (T/yr) - P&B 10,000
 MAIN GRADES: Corrugating
 grades, Paperboard

26. QADRIA BOARD MILLS LTD

16 Km 31 Sheikhpura Road, Lahore
 TELEPHONE 42 301 324
 TELEX 44430
 EXECUTIVES: Mr. Shahbaz Khan,
 Managing Director
 MILLS: Sheikhpura Mill
 GRADES: Containerboard,
 Paperboard

Sheikhpura Mill

Km 31 Sheikhpura Road, Lahore
 CAPACITY (T/yr) - P&B 10,000

MAIN GRADES: Corrugating
 grades, Paperboard

27. SAMPAK PAPER & BOARD MILLS LTD

Km 31 Sheikhpura, Lahore
 TELEPHONE 41 301 324
 TELEX 44430
 EXECUTIVES: Mr. Mohammad
 Mugloor, Managing Director
 MILLS: Sheikhpura Mill
 GRADES: Printings/writings,
 Paperboard

Sheikhpura Mill

Km 31 Sheikhpura, Lahore
 CAPACITY (T/yr) - P&B 15,000
 MAIN GRADES: Printings/writings,
 Paperboard

28. SAYID PAPER MILLS

37-L Gulberg III, Lahore, Punjab
 TELEPHONE 42-852 944
 EXECUTIVES: Mr. W. M. Sayid,
 Chairman and Managing Director
 MILLS: Sheikhpura Mill
 GRADES: Straw pulp, Packaging
 paper, Containerboard,
 Paperboard, Corrugating medium,
 Kraft board, Kraft wrapping paper,
 Testliner, Whitelined chipboard

Lahore Mill

16 Km Lahore Sheikhpura Road,
 Sheikhpura, Punjab
 TELEPHONE 218 219
 EXECUTIVES: Mr. Anjam Pervaz,
 Production Manager
 RAW MATERIALS: Waste paper,
 Purchased pulp, Straw, Bagasse
 CAPACITY (T/yr) - P&B 6,500 Pulp
 1,800
 MAIN GRADES: Packaging paper
 (1,500 T/yr), Containerboard (2,500
 T/yr), Other paperboard (2,500 T/yr)
 EXPANSION PLANS: Plans to
 raise pulp capacity and rebuild
 paper machine with new forming
 cylinder and MG dryer

29. SECURITY PAPERS LTD

9-10 Hotel Metropole, Karachi
 75520
 TELEPHONE 21 512 766
 TELEX 2756
 EXECUTIVES: Mr. Sardar Noor
 Elahi Khan Legwani, Chairman &
 Managing Director
 Dr. Mohammad Tufail, Director
 Mr. Amir Ahmad Khan, Company
 Secretary
 Mr. Abdul Raul H M Wala, Chief
 Accountant
 MILLS: Karachi Mill

GRADES Specialty papers
Security paper

Karachi Mill

Jinnah Avenue, Mulla Hall, Karachi
TELEPHONE 21-481 281
TELEX 2796

EXECUTIVES: Mr M A Wahab, Mill
Manager
Mr Mansoor, Production Manager
Mr Ayaz Ahmad Qureshi, Chief
Engineer
RAW MATERIALS: Hemp Cotton
Waste, Specialty pulp
CAPACITY (T/yr) P&B 1,500
MAIN GRADES: Specialty papers,
GRADE DETAILS: Security papers

30 SETHI STRAW BOARD MILLS LTD

Hafwal, Gujranwala, Punjab
EXECUTIVES: Mr Zahid Sethi,
Managing Director
MILLS: Gujranwala Mill
GRADES: Containerboard,
Paperboard, Chipboard, Grey
board, Strawboard.

Gujranwala Mill

Hafwal, Gujranwala, Punjab
RAW MATERIALS: Straw,
Wastepaper
CAPACITY (T/yr) P&B 8,000
MAIN GRADES: Corrugating
grades, Paperboard
EXPIRATION PLANS: Mill shut at
end 1989

31. SHALIMAR PAPERS LTD

14 km Multan Road, Lahore
TELEPHONE 42-882 505
EXECUTIVES: Mr M Zafarullah
Khan, Managing Director
MILLS: Lahore Mill
GRADES: Containerboard.

Lahore Mill

14 km Multan Road, Lahore
TELEPHONE 42-882 505
EXECUTIVES: Mr Tariq Khalid
Mian, Mill Manager
CAPACITY (T/yr) P&B 12,000.
MAIN GRADES: Corrugating
grades.

32. SHEIKHUPURA BOARD MILLS

Sheikhupura, Punjab.
MILLS: Sheikhupura Mill
GRADES: Printings/writings.

Sheikhupura Mill

17 km Lahore Sheikhupura Road,
Dist Sheikhupura.

RAW MATERIALS: Wastepaper,
Purchased pulp
CAPACITY (T/yr) P&B 7,500
MAIN GRADES: Printings/writings

33 STAR PAPER MILLS (PVT) LTD

G-4 Site, Kotri, Dist Dadu,
TELEPHONE 221-5145
EXECUTIVES: Mr Huzefa Khan,
Managing Director
MILLS: Kotri Mill
GRADES: Packaging paper

Kotri Mill

G-4 Site, Kotri, Dist Dadu,
TELEPHONE 221-51235
EXECUTIVES: Mr Abdul Hashood,
Mill Manager

RAW MATERIALS: Wastepaper,
Wheat straw
CAPACITY (T/yr) P&B 5,000
MAIN GRADES: Packaging paper

SULTAN PAPER BOARD MILLS (PVT) LTD

18-A Small Industries Estate,
Gujranwala,
TELEPHONE 431-82199
EXECUTIVES: Mr Ch Mohammad
Halique, Managing Director
MILLS: Gujranwala Mill
GRADES: Containerboard,
Paperboard, Chipboard

Gujranwala Mill

18-A Small Industries Estate,
Gujranwala,
TELEPHONE 82199
CAPACITY (T/yr) P&B 1,000
MAIN GRADES: Corrugating
grades, Paperboard

35. THAL PAPER INDUSTRIES LTD

14C-1, Gulberg-III, M M Alam
Road, Lahore
TELEPHONE 42-873 897
EXECUTIVES: Mr Bashir Ahmed
Ansan, Managing Director
MILLS: Jauharabad Mill (planning
stage)

Jauharabad Mill

Jauharabad, Dist Khushab.

ANNEXURE III

PAKISTAN PULP, PAPER & BOARD MAKERS ASSOCIATION, KARACHI
LIST OF MEMBERS WITH OFFICE AND MILL ADDRESSES
JUNE - 1990

NO.	NAME & DESIGNATION OF CHIEF EXECUTIVE	OFFICE ADDRESS	MILL ADDRESS
	Mr. Abdul Hameed Adamjee Managing Director	Adamjee Paper & Board Mills Limited, 4th Floor, Adamjee House, I.I. Chundrigar Road, Karachi. Phone: 241732 - 5 Cable: ADAMJ1BOARD Telex: 25340 ANAKI PK	Nowshera, N.W.F.P Ph: 2751 & 2752 Cable: ADAMJEES
	Mr. Sh. Amir Haider Managing Director	Ali Paper Board Industries Limited, GPO Box No. 668 Lahore. Ph: 224455	37-Km, Lahore- Sheikhupura Road Distt. Sheikhupur (Punjab)
	Mr. Mohammad Ikram Qureshi Managing Director	Al-Quresh Board Mills Ltd., 70-Industrial Estate, Kot Lakhat Township, Lahore-40. Ph: 042-841770 Telex: 44294 ALNUR PK Cable: NAJIQ	Same as office
	Mr. Sheikh Mohammed Saleem Managing Director	Bahwalpur Board Mills Ltd., Agro Square, Main Market, Shadman, Lahore. Ph: 410179 Telex: 44255 BBM PK	31-Km., Lahore- Sheikhupura Road Sheikhupura (Punjab) Ph: 8232-8332
	Mr. Mahmood Ali Managing Director	Chilya Corrugated Board Mills Ltd., 8th Floor, Sheikh Sultan Trust Building 10-Beaumont Road, Karachi. Ph: 520676 - 520678	CHILYA Distt: THATTA (Sindh) Ph: 649
	Mr. Mohammad Ibrahim Chief Executive	City Paper & Card Board Industries (Pvt) Ltd. Room No. 2, 1st floor, Farid Chambers, Abdullah Haroon Road, Karachi Ph: 523120	A-139, SITE, Nooriabad, Distt. Dadu (Sindh) Ph: 0221-39272

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|---|---|---|
| 7. Mr. Suleiman Y. Dadabhoy
Director | Dadabhoy Paper Mills (Pvt) Ltd., GPO Box No. 550, Karachi.
Ph: 216164, 217129
Telex: 23975 VAWDA PK | Plot No. 8,
Sector 29,
Korangi Industrial Zone, Karachi
Ph: 330168, 330138 |
| 8. Mr. Kamran Khan
Chairman | Flying Paper Industries Ltd. 16-Bridge Colony, Lahore Cantt.
Ph: 371655, 375671, 381601
Telex: 44977 FLYCO PK | 26-Km., Lahore-Sheikhupura Road, Sheikhupura (Punjab)
Ph: 8244-8344 |
| 9. Mr. Kamran Khan
Chief Executive | Flying Board & Paper Products Limited, 16-Bridge Colony, Lahore Cantt.
Ph: 371655, 375671, 381601
Telex: 44977 FLYCO PK | 26 Km., Lahore-Sheikhupura Road, Sheikhupura (Punjab) |
| 10. Mr. Syed Mohammad Maghfoor
Managing Director | Ghazi Paper Mills Ltd., 51, Aibak Block, New Garden Town, Lahore.
Ph: 855698, 856797
Cable: GHAZIPAMIL | 31 Km., Lahore-Sheikhupura Road, Sheikhupura (Punjab) |
| 11. Mr. M. Salim Malik
Managing Director | Mehar Paper Mills Ltd., 1st floor, Saifee House, Dr. Ziauddin Ahmed Road, Karachi.
Ph: 219171, 219174, 218618
Cable: SONSUM
Telex: 24608 SOSUM PK | 10 Km., Sheikhupura, Faisalabad Road, Sheikhupura. |
| 12. Mr. Abdul Gaffar,
Director | Orient Straw Board & Paper Mills Limited, 49-Napier Road, Karachi
Ph: 731918,
Cable: ANJOOAN | Petaro Road, Near Telegraph Colony, Kotri, Distt. Dadu (Sindh)
Ph: 50170-2 |
| 13. Mr. Shezad Manzoor
Chief Executive | Mandiali Paper Mills (Pvt) Limited, 21 - Km., Lahore-Sheikhupura Road, P.O. Kot Abdul Malik, Distt. Sheikhupura (Punjab)
Ph: 218216m 218251m 218252
Telex: 44093 PPM PK | Same as office |

Mr. Imran Qamar, Director	Poly Paper & Board Mills (Pvt) Limited, 16-Bridge Colony, Lahore Cantt. Ph: 371655, 375671, 381601 Telex: 44977 FLYCO PK	13th Km., Sheikh pura/Faisalabad Road, Distt Sheikhupura (Punjab)
Mr. Tariq Hamid, Director/ General Manager	Packages Limited, Shahrah-e- Roomi, P.O. Amersidhu, Lahore - 54770. Ph: 800011-18, 375459 Cable: PACKAGES LAHORE Telex: 44866 PKGS PK	Same as office
Mr. Shaukat Ali Director	Premier Paper Mills Limited, 7.5 Km., Sheikhupura- Lahore Road, P.O. Kot Saleem, Sheikhupura (Punjab) Ph: 04931, 4332m 8211 Telex: 44093 PPM PK	Same as office
Mr. Mohammad Afzal Chief Executive	Pakistan Paper Corporation Limited, Charsadda, Dist. Peshawar (NWFP), Ph: (0525) 934-928 Telex: 52333 PPC PK Cable: Paper Charsadda	Charsadda Distt. Peshawar N.W.F.P
Mr. Shahabal Khan Managing Director	Qadria Board Mills Ltd., 133-C, Model Town, Lahore. Ph: 850146 Telex: 44430 SAM PK	31 Km., Lahore- Sheikhupura Road Sheikhupura (Punjab)
Mr. W.M. Sayid Managing Director	Sayid Paper Mills Limited, 37-L, Gulberg-III, Lahore Ph: 852944, 856133 Cable: PAPERMAKER	16 Km., Lahore- Sheikhupura Road Sheikhupura Ph: 218219 218319
Mr. Syed Mohammad Maghfoor Managing Director	Sampak Paper & Board Mills Ltd., 14-Race Course Road, Lahore. Ph: (042) 302325, 306077 Cable: ENGRON	31 Km., Lahore, Sheikhupura Road Sheikhupura (Punjab) Ph: (04931) 8221, 8322, 8209

Mr. A.B. Soomro, Managing Director	Security Papers Limited, 116, Malir Halt, SIDCO Avenue Centre, Stratchen Road, Karachi. Ph: 522208, 521192, 522418 Cable: SECPAPERS Telex: 2796 PSPC PK	Jinnah Avenue, Karachi (Sindh) Ph: 405516
Mr. Rozi Khan, Executive Director	Star Papers Mills (Pvt) Ltd., Same as office G-4, SITE, Kotri, Distt. Dadu (Sindh) Ph: 51455, 51235	
Ch. Mohammad Rafique Managing Director	Sultan Paper Board Mills (Pvt) Limited, 18-A, Small Industries Estate, Gujranwala (Punjab) Ph: 82199	Same as office
Mr. M. Zafarullah Khan, Director	Shalimar Papers Limited 14-Km., Multan Road, Lahore. Ph: 875606, 875616 Telex: 44798 KHANS PK	Same as office
Mr. Tariq Mohsin Siddiqui Managing Director	Pakland Paper Ltd. Trade Centre A-14, Block 7/8 KCHS KARACHI Ph: 430143 (4 lines) Cables: ZAMINPAK Telex: 25758 PCL PK	THATTA

Anexure IV

LIST OF PULP, PAPER & PAPER BOARD MILLS IN PAKISTAN-BY PROVINCES

NAME & DESIGNATION OF CHIEF EXECUTIVE	OFFICE ADDRESS N.W.F.P.	MILL ADDRESS
Mr. Abdul Hameed Adamjee, Managing Director	Adamjee Paper & Board Mills Ltd., 4th Floor Adamjee House, I.I.Chundrigar Road, Karachi Ph: 241732-5 (Sindh) Cable: ADAMJIBOARD Telex: 25340 AHAKI PK	Nowshera, Ph: 2751 & 2752 Cable: ADAMJEES
	Golden Valley Paper Mills, Gadoon Industrial Estate, Gadoon Amazai, NWFP	Gadoon Amazai
Mr. Mohammad Afzal, Chief Executive	Pakistan Paper Corporation Ltd, Charsadda, Distt. Peshawar NWFP Ph: (0525) 934-928 Telex: 52333 PPC PK Cable: Paper Charsadda	Charsadda, Distt. Peshawar,
<u>P U N J A B</u>		
Mr. Sh. Amir Haider Managing Director	Ali Paper Board Industries Ltd., GPO BOX No. 668, Lahore (Punjab) Ph: 224455	37- Km., Lahore Sheikhupura Road, Distt. Sheikhupura
Mr. Mohammad Ikram Kureshi Managing Director	Al- Quresh Board Mills Ltd., 70- Industrial Estate, Kot Lakhat Township, Lahore-40. (Punjab) Ph: 042-841770 Telex: 44294 Alnur Pk Cable: Najiq	Same as office
Mr. Sheikh Mohammad Saleem Managing Director	Bahawalpur Board Mills Ltd., Agro Square, Main Market, Shadman, Lahore (Punjab) Ph: 410179 Telex: 44255 BBM Pk	31- Km., Lahore- Sheikhupura Road, Sheikhupura Ph: 8232-8332
Mr. Sultan Lakhani Chairman of the Board	Century Paper & Board Mills Ltd, 265 R.A. Lines, Sarwar Shaheed Karachi (Sindh) Ph: 520141 Telex: 23206 Laksn Pk	Bhai Phero Chunian Distt: Kasur.
Mr. Salim A. Faruki Managing Director	Faruki Kraft Pulp Mills Ltd., 316-317 Alflah Building Shahrah-e-Quaid-e- Azam, Lahore (Punjab) Ph: 302361-4 Lines Telex: 44778 Salim Pk	Gujrat
Mr. Khalid Mahmood	Firdaus Straw Board Mills Ltd., Shehrah-e-Quaid-e-Azam Lahore, (Punjab) Ph: 431	Gujranwala

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|--|---|--|
| 10. Mr. Kamran Khan
Chairman of the Board | Flying Paper Industries Ltd,
16-Bridge Colony, Lahore
Cantt. (Punjab) Ph: 371655
375671, 381601
Telex: 44977 Flyco Pk | 26-Km., Lahore-
Sheikhupura Road,
Sheikhupura
Ph: 8244-8344 |
| 11. Mr. Kamran Khan.
Chief Executive | Flying Board & Paper Products
Ltd., 16- Bridge Colony,
Lahore Cantt. (Punjab)
Ph: 371655, 375671, 381601
Telex: 44977 Flyco Pk | 26-Km., Lahore-
Sheikhupura Road,
Sheikhupura |
| 12. Mr. Syed Mohammad
Maghfoor
Managing Director | Ghazi Paper Mills Ltd.,
51, Aibak Block, New Garden
Town, Lahore (Punjab)
Ph: 855698, 856797
Cable: Chazipamil | 31-Km., Lahore-
Sheikhupura Road
Sheikhupura |
| 13. Mr. Ghulam Qadir | Ghulam Qadir Straw Board
Mills Small Industries Estate
Gujranwala (Punjab) | Same as office |
| 14. _____ | Indus Paper Mills Ltd,
Rajanpur (Punjab) | Rajanpur |
| 15. _____ | International Fibres
Products Ltd, Khushab
(Punjab) | Khushab |
| 16. Mr. Shafqat Rasool
Chairman of the Board | Jubilae Paper Board Mills
Ltd., Box 507, Gujranwala
(Punjab) Ph: 80223 | G.T Road Kamoke |
| 17. Chairman
Punjab Industrial
Development Board | Kamalia Paper Project, Punjab
Industrial Development Board
Lahore (Punjab) | Kamalia |
| 18. Fida Hussain
Chairman of the Board | Lasani Straw Board Mills Ltd,
Small Industries Estate
Gujranwala, (Punjab)
Ph: 433476, 883988 | Same as office |
| 19. Mr. Shezad Manzoor
Chief Executive | Mandiali Paper Mills (PVT)
Ltd, 23 Zaibunnisa Street Box
7438 Karachi (Sindh)
Telex: 24692 HBS Pk | 12-Km., Lahore-
Sheikhupura Road,
P.O. Kot Abdul Malik,
Distt. Sheikhupura
Ph: 218216m 21825m
218252
Telex: 44093 PPM Pk |
| 20. Mr. M. Salim Malik
Managing Director | Mehar Paper Mills Ltd., 1st
floor, Saifee House, Dr.
Ziauddin Ahmed Road, Karachi
(Sindh) Ph: 219171, 219174
218618, Cable: Sonsum
Telex: 24608 Sosum Pk | 10Km, Sheikhupura-
Fasalabad Road
Sheikhupura |

1. Mr. Tariq Hamid, Director/ General Manager	Packages Ltd., Shahrah-e-Roomi, P.O. Amersidhu Lahore- 54770 (Punjab) Ph: 800011-18, 375459 Cable: Packages Lahore Telex: 44866 Pkgs Pk	Same as office
Mr. Arshad Ali Vice President & Deputy Managing Director	Pakistan Board Mills Ltd, 23/6 Faisalabad Road, Shaikhupura (Punjab) Ph: 4931, 4108 & 4636	Same as office
<hr/>	Pakistan Paper Products Ltd. Shaikhupura (Punjab)	Shaikhupura
Mr. Shaukat Ali Director	Premier Paper Mills Ltd. 7.5. Km., Sheikhpura- Lahore Road P.O. Kot Saleem, Sheikhpura (Punjab) Ph: 04931, 4332m 8211 Telex: 44093 PPM Pk	Same as office
Mr. Imran Qamar	Poly Paper & Board Mills (Pvt) Ltd., 16- Bridge Colony, Lahore Cantt (Punjab) Ph: 371655, 375671, 381601 Telex: 44977 Flyco Pk	13th Km., Sheikhpura Faisalabad Road, Distt. Sheikhpura
<hr/>	Punjab Borad Mills Ltd., Sheikhpura Road, Sheikhpura (Punjab)	Same as office
Mr. Shahabal Khan Managing Director	Qadria Board Mills Ltd, 133-0 Model Town Lahore (Punjab) Ph: 850146 Telex: 44430 Sam Pk	31 Km., Lahore- Sheikhpura Road Sheikhpura
Mr. W.M. Sayid Managing Director	Sayid Paper Mills Ltd., 37-I, Gulber-III, Lahore Ph: 852944, 856133 (Punjab) Cable: Papermaker	16Km., Lahore- Sheikhpura Road, Sheikhpura Ph: 218219, 218319
Mr. Syed Mohammad Mughfoor Managing Director	Sampak Paper & Borad Mills Ltd, 14-Race Course Road, Lahore(Punjab) Ph: (042) 302325, 306077 Cable: Engron	31 Km, Lahore- Sheikhpura Road, Sheikhpura Ph: (04931) 8221,8322, 8209
Mr.M. Zafarullah Khan Director	Shalimar Paper Ltd., 14-Km Multan Road, Lahore (Punjab) Ph: 875606,875616 Telex: 44798 Khans Pk	Same as office
Mr. Younus Sethi Chairman of the Board	Sethi Straw Board Mills Ltd, Rahwali, Gujranwala (Punjab)	Same as office
<hr/>	Sheikhpura Board Mills Ltd, Sheikhpura (Punjab)	Same as office
Ch Mohammad Rafique Managing Director	Sultan Paper Board Mills (Pvt) Ltd., 18-A, Small Industries Estate, Gujranwala. (Punjab) Ph: 82199	Same as office

34. _____ Thal Paper Industries Ltd., Jauharabad
42-C-1 Gulberg III Lahore
(Punjab)
- S I N D H
35. _____ Al- Amin Ltd., Sindh Industrial Trading Estate, Kotri, Distt, Dadu (Dindh) Same as office
36. Mr. Mahmood Ali Managing Director Chilya Corrugated Board Mills Ltd., 8th Floor Sheikh Sultan Trust Building, 10- Beaumont Road, Karachi(Sindh) Chilya Distt. Thatta Ph: 649
37. Mr. Mohammad Ibrahim Chief Executive City Paper & Card Board Industries (Pvt) Ltd. Room No.2 1st Floor, Farid Chambers, Abdullah Haroon Road, Karachi (Sindh) Ph: 423120 A-139, SITE, Nooriaba Distt, Dadu Ph: 0221-39272
38. Mr. Suleiman Y. Dadabhoy, Director Dadabhoy Paper Mills (Pvt) Ltd. GOP Box No.550, Karachi (Sindh) Ph:216164, 217129 Telex: 23975 Vawda Pk Plot No. 8, Sector29, Korangi Industrial Zone, Karachi. Ph: 330168 330138
39. _____ Dawn Paper Board Mills Hyderabad (Sindh) Hyderabad
40. Mr. Aziz Mohammad Managing Director Master Paper (Pvt) Ltd, Plot No, 35, Sector 12-B North Karachi Industrial Area Karachi(Sindh) Ph: 654035, 653714 Same as office
41. _____ Mehar Paper Mills SITE Kotri, District Dadu, Kotri, District Dadu
42. Mr. Abdul Gaffar, Director Orient Straw Board & Paper Mills Ltd, 49, Napier Road, Karachi(Sindh) Ph; 73198 Cable: Anjooman Petaro Road, Near Telegraph Colony Kotri Distt. Dadu Ph: 50170-2
43. Mr. Tariq Mohsin Siddiqi, Managing Director Pakland Paper Ltd, Trade Centre A-14, Block 7/8 KCHS, Karachi (Sindh) Ph: 430143 (4 Lines) Cable: Zaminpak Telex: 25758 Pcl Pk Thatta
44. Mr. A.B.Soomro, Managing Director Security Papers Ltd, 116, SIDCO Avenue Centre, Stratchen Road Karachi Ph:522208, 521192,522418 (Sindh) Malir Halt, Jinnah Avenue, Karachi Ph: 405516
45. Mr. Akber Khan General Manager Sindh Paper Mills Ltd, 3rd Floor Dawood Centre, Moulvi Tammziddin Khan Road Karachi (Sindh) Shafiabad Gharo, Distt, Thatta
46. Mr. Rozi Khan Executive Director Star Paper Mills (Pvt) Ltd, G-4 Site Kotri, Distt. Dadu(Sindh) Ph: 51455, 51235 Same as office

ANNEXURE V

Visit Itinerary for Survey of Pulp, Paper & Board Mills approved by Mr. Charles R. Hatch, chief of the party, Winrock International, GOP-USAID.

Forestry Planning and Development Project.ForM/S Gerald G. Wire & T.A. AnsariN.W.F.P.Thursday May 24:

- Adamjee Paper and Board Mills Ltd.
Nowshera
- Meet Senior officers in the Pakistan Industrial Credit and Investment Corporation (PICIC) regarding management of Pakistan Paper Corporation Ltd. Charsadda.

P U N J A BSunday May 27:

- Packages Ltd. Lahore
- Century Paper and Board Mills, P.O. Bhai Pheru, Distt. Kasur.

Monday May 28:

- Flying Paper Industries Ltd. Sheikhpura.
- Premier Paper Mills Ltd. Sheikhpura.

Tuesday May 29

- Crescent Hardboard Mills Limited, Faisalabad (For TMP possibility)

Wednesday May 30

- Jubilee Paper board Mills Limited, Gujranwalla
- Smaller Mills
 - Sethi Strawboard Mills Limited, Gujranwalla or
 - Sultan Paper Board Mills Limited, Gujranwalla

S I N D H

Saturday May 2 to Monday May 5

- Pakland Papers Limited, Distt. Thatta
- Chilya Corrugated Board Mills Limited, Chilya, Distt. Thatta.
- Security Papers Limited, Karachi.
- 4 or 5 other mills.

ANNEXURE VILIST OF PULP & PAPER MILLS SURVEYEDN. W. F. P.

May 24, Adamjee Paper & Board Mills Limited, Nowshera

M. Rafiuddin
General Manager

Mohammad Rafiq
Chief Chemist

May 26 Pakistan Paper Corporation Limited, Charsadda
Distt. Peshawar

Mohammad Yousuf
Technical Manager

P U N J A B

May 27, Packages Limited, Shahrah-e-Roomi,
P.O. Amer Sidhu, Lahore.

Mr. Tariq Hameed
General manager

Dr. S. Mughis Asghar Ph.D
Chief Chemist

May 28, Premier Paper Mills Limited, 7.5 Km.
Sheikhupura-Lahore Road, P.O. Kot Saleem,
Sheikhupura.

Sheikh Mohammad Saeed
Director

Altaf-ur-Rehman Qureshi
Commercial Manager

Eng., Muhammad Hanif Malik
Process Manager

Ghazi Paper Mills Limited, 31 Km. on
Lahore-Sheikhupura Road, Sheikhupura

Hameed Akhtar Khokhar
Factory Manager

Sampak Paper & Board Mills Limited, 31 Km. on
Lahore-Sheikhupura Road, Sheikhupura

Mr. Muhammad Maghfoor Managing Director
Mr. Mahboob Ali General Manager (Technical)

Flying Paper Industries Limited

Head Office: 16 Bridge Colony Cantt,
Lahore. Visited the Head Office and also
the mill located on Lahore-Sheikhupura
Road but the survey could not be done as
the Management was not available either at
Lahore or the mill site.

May 29,

Century Paper & Board Mills Limited

Lahore Office: 7 Aurangzeb Block,
New Gardent Town Lahore.

Asif Hassan
General Manager (Marketing)

Meeting with
Mr. Asif
Hassan on
May 27, who
arranged survey
of the mill on
29 May.

Mill SITE JUMBER KHURD.
P.O. Bhai Pheru, Distt. Kasur

Engr. Khalid Saleem
General Manager (Projects)

Aftab Ahmad
Deputy General Manager (Technical)

Crescent Boards Limited,
New Lahore Road, Faisalabad

Mr. M. Asghar Qureshi
Director

(It is not a pulp , paper or paper board mill,
but the purpose of visit was to find the TMP
possibility)

May 30,

Jubilee Paper Board Mills Limited,
G.T. Road, Kamoke, Distt. Gujranwala

Sheikh Mumtaz,
Director
General Manager

Hafiz Maqsood Ahmed
Mill Manager

Sultan paper Board Mills (Pvt) Limited
18-A, Small Industries Estate, G.T. Road,,
Gujranwala

Ch. Mohammad Shabbir
Director

Mr. Mohammad Saleem
Process Manager

Sethi Strawboard Mills Ltd., Rahwali

The mill was found closed and not in
production and hence not surveyed.

NOTE:-

All above mills in NWFP and the Punjab (except
PPP Corporation Ltd, Charsadda, Peshawer) were
surveyed together with Mr. Gerald G. Wire, Pulp
and Consultant, Winrock International, Forestry
Planning and Development Project GOP-USAID,
Islamabad.

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S I N D H

- June 16, Pakland Paper Limited, Trade Centre, A-14 Block 7/8, KCHS, Karachi.
- The Pulp & Paper mill with a capacity of 30,000 tons/year of paper & board & with wheat straw, bagasse & imported pulp as raw material proposed to be set up in Distt. Thatta is in planning stage. Held discussions with:
- Mr. S.M. Abdullah, Senior Manager (Projects)
- June 17, Dadabhoy Paper Mills (Pvt) Limited Plot No.8, Sector 29, Korangi Industrial Zone, Karachi.
- Mr. Suleiman Y. Dadabhoy, B.S. (Paper Tech)(U.S.A.)
Director
- June 18, Security Papers Limited, Malir Halt, Jinnah Avenue, Karachi.
- Mr. A.B. Soomro
Managing Director
- Mr. Abdul Wahab
Mill Manager
- June 19, City Paper & Card board Industries (Pvt) Limited, A-139, Sindh Industrial Trading Estate, Nooriabad, Distt. Dadu, Managing Director.
- Mr. Mohammad Ibrahim,
Chief Executive
- June 20, Orient Straw Board & Paper Mills Limited, Petaro Road, Near Telegraph Colony, Kotri, Distt. Dadu.
- Mr. Abdul Gaffar Abdullah, Director

June 21, Sindh Paper Industries, P.O. Shafiabad, Gharo,
Distt. Thatta.
(Formerly Allied Paper Industries)

Mr. Akbar Khan, General Manager

Mirza Bashir Beg, Mill Manager

June 21, Chilya Corrugated Board Mills Limited,
Chilya, Distt. Thatta.

Mr. Fazal Hussain, General Manager

Mr. Feroz-uddin, Mill Manager

June 23, Master Papers (Pvt) Limited, Plot No.35, Sector
12-B, Industrial Area, North Karachi, Karachi.

Mr. Aziz Mohammad, Chief Executive/Managing
Director

Mr. Suhail Ahmed, Director

ANNEXURE VIIVISIT PROGRAM - LIST OF PRINCIPAL PERSONS METMay 23 & 24Ministry of Food, Agriculture & Co-operatives,
Government of Pakistan, Islamabad.

- Mr. Abeerullah Jan, Inspector General of Forests/Additional Secretary

GOP-USAID-Forestry Planning & Development
Project-Winrock International Technical
Assistance Team

- Mr. Charles R. Hatch, Chief of Party
- Mr. Mahmood Iqbal Shaikh, Policy & Management Specialist.
- Mr. Gerald G. Wire-Pulp & Paper Consultant.

Punjab Forest Department

- Mr. Ishtiaq Kazi, Chief Conservator of Forests North Reg. Rawalpindi.

May 26Pakistan Forest Institute, Peshawar

- Dr. K.M. Siddique, Director General
- Mr. K.M. Suleman, Senior Pulp & Paper Officer, Forest Products Division.

N.W.F.P Forest Department

- Mr. Yar Mohammad, Chief Conservator of Forest, N.W.F.P.

Page 31Institute of Chemical Engineering & Technology
University of the Punjab, Lahore.

- Dr. Ijaz Hussain Khan, Director
(Meeting along with Mr. Gerald G. Wire)

Punjab Forest Department

- Mr. Anwar Masroor, Chief Conservator of Forests (Planning & Development) Lahore
- Mr. Mehmood Ahmad, Conservator of Forests, Headquarters, Lahore.
- Amir Nawaz Khan Niazi, Divisional Forest Officer, Lahore.

Page 2Federal Bureau of Statistics, Statistics
Division, Government of Pakistan, Karachi.

- Mr. Mohammad Ahmad Turabi, Director, Foreign, Trade Statistics.
- Mr. S.M. Aminuddin, Chief Statistical Officer, External Trade Section
- Mr. Nazir Ahmed, Chief Statistical Officer, Internal Trade Section

Bureau of Statistics, Planning & Development
Department, Government of Sindh, Karachi

- Mr. Yahyah Waliullah, Director General

Page 4 & 5Sindh Forest Department

- Mr. Bahauddin Sirhindi,
Chief Conservator of Forests, Hyderabad
- Mr. Imdad Ali,
Divisional Forest Officer, Sanghar
Afforestation Division at Khipro, Distt.
Sanghar.

June 6Pakistan Council of Scientific & Industrial Research, Karachi.

- Dr. Mirza Arshad Ali Beg,
Director General Projects.
- Mr. Naeemuddin
Chief, Pulp & Paper Section, PCSIR
Laboratories, Karachi.

June 7Pakistan Pulp, Paper & Board Makers Association, Room No. 402, 4th Floor, Burhani Chambers, Abdullah Haroon Road, Karachi.

- Mr. Hifzul Kabir Siddiqui,
Secretary

June 8 & 9Pulp & Paper Dealers

- Ashfaq Hussain & Bros.,
10-11, Saif-e Paper Market, Shahrah-e-
Liaquat,
Ashfaq Hussain, Manager
- Dawn Paper Mart
Campbell Street
Yawar Ali, Resident Partner
- M.Z. Corporation
404, Commerce Centre, Hasrat Mohani Road,
K.M. Zaheer, Chief Executive
- Veer Corporation,
No. 6, Plot No. 51, SR-9, Jairam Street
Nazim Ali, Manager

SERIAL NO: 1

1. FIRM NAME Adamjee Paper & Board Mills Ltd. DATE 24-05-1990

2. CHQ ADDRESS Adamjee House, I.I. Chundrigar Road, P.O. Box 4332, Karachi-0226 (Sindh) YEAR EST. 1955

2.1 CONTACT Mr. Abdul Hamid Adamjee TITLE Managing Director

3. MILL ADDRESS Adamjee Paper & Board Mills Limited
Shahrah-e-Pakistan, Newsnera (NWFP)

3.1 CONTACT Mr. M. Rafiuddin TITLE General Manager

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS	ANNUAL PRODUCTION, KTONS				CAPACITY
		1986	1987	1988	1989	
4.1 Paper Board	g/m ² 220/500	12.400	14.200	14.020	9.140	80 TPD
4.2 Paper	30/100	6.690	7.210	5.230	4.650	20
4.3						
4.4						
4.4						
4.5 OTHER						
4.6 TOTAL		19.090	21.410	19.250	13.790	100
4.7 COMMENTS	Production particularly of Board has been low due to shortage of raw materials and financial constraints.					

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
5.1 Grass/Bagasse	Own mill		5.500	5.906	5.082	4.570	--
5.2 Waste Cotton	Own mill		2.033	2.567	2.361	1.921	--
5.3 Waste Paper	Own mill	Imported	12.080	8.097	13.097	6.270	--
5.4 Wood Pulp		Imported	3.423	3.804	3.332	1.204	--
5.5							
5.6 TOTAL			23.063	20.374	23.872	13.965	--
5.7 COMMENTS	Waste paper pulp includes 2600 tons pulp made from local waste paper plus pulp made from imported waste paper.						

6. PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & TYPE	CAPACITY		PRODUCTION, K-TONS				
		BRT	TPD	1986	1987	1988	1989	1990
6.1 Grass/Bagasse	Sod. Sulphite	70°	25	5.400	5.790	4.861	4.370	
6.2 Wood	Soda	75°	--	0.100	0.112	0.220	0.180	
6.3 Waste Cotton	Soda	75°	10	2.021	2.566	2.356	1.943	
6.4								
6.5								
6.6 TOTAL			35	7.521	8.468	7.437	6.493	
6.7 COMMENTS	Pulp production was low due to shortage of raw materials.							

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST	SOURCE		TRANSPORT		CONSUMPT.		
		Rs/UNIT	LOCALE	VENDOR	FORM	VIA	KTPA	%OD
7.1 Grass	400/ton		Local dealer		Road		17.500	90%
7.2 Bagasse	450/ton		Sugar mill		Road		22.000	50%
7.3 Waste Cotton	1700/ton		cotton mill		Road		4.000	90%
7.4 Waste Paper	3700/ton		Local dealer		Road/Rail		15.000	90%
7.5 Waste Paper	11000/ton			Imported	Ship	Karachi	4.000	90%
7.6 Wood Pulp	20 000/ton			Imported	Ship	Karachi	3.000	--
7.7 COMMENTS	The grass used is Kahi (Saccharum spontaneum)							

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM Cm	INST. Yr	COMMENTS
NO.1	Former, M.G. Size Press, In-Line Coater	120	226	1955	Rebuilt in 1964
NO.2	Fourdrinier Rewinders-2, Sheeters-2, Super Calender-1 & Coating equipment	180	260	1965 & 1986	

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF REQD).
 8.3 NO. OF DIGESTERS 7, SIZE 36 m³, PULPING CAPACITY 35 TPD
 8.2 BLEACHING: CHEMISTRY CEH; TOWERS Four; WASHERS 10 Nos.
 8.3 OTHER COMMENTS See separate sheet attached.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY Under ground water (Wells) 1-3.960 mgd.
 9.2 WATER TREATMENT None as the sub-soil water is clean and soft
 9.3 EFFLUENT TREATMENT -None-
 9.4 STEAM GENERATED: AMOUNT 66 Tons / Hr QUALITY Super heated
 9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

Natural Gas	For Boiler	14150 m ³	Sui Northern Gas Pipeline	Boilers are designed for dual fuel i.e. gas and furnace oil
TOTAL		14150 m ³		

9.6 ELECTRICITY GENERATED: TYPE, MW.
 UNIT 1 440V, 1 MW Two steam Turbines of 1.5 each are installed, one being a standby
 UNIT 2 AC
 UNIT 3 _____
 9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND. kWhr/DAY CONSUMED
MAPDA 4 MW 100,000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP	<u>Yes, Bleached chemical wood pulp</u>
BRIGHTNESS	<u>85 - 90%GE</u>
PRICE RANGE Rs/ADT	<u>9000 - 110,000</u>
TPA	<u>About 5000 tons / year</u>

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE	<u>Bleached</u>	<u>CTMP</u>
PROCESS	<u>Soda</u>	<u>CTM</u>
BRIGHTNESS	<u>85-90%GE</u>	<u>-</u>
WOOD TYPE	<u>Poplar/Eucalyptus</u>	
Rs/TON	<u>9,000/-</u>	<u>10,000/-</u>
TPA AD PULP	<u>5000</u>	

COMMENTS At present the plant is equipped to process non-woody raw materials only. However, with some additional machinery the mill manages to use about 50-100 tons of poplar wood per month for pulping in the existing production system.

Contd....P/3.....

Presently the mill is buying poplar logs as well as waste splints from match industry at Rs. 700 per air-dry m. ton delivered at mill gate. The management is prepared to pay a price of Rs. 1000 & Rs. 1200 per air-dry m. ton for barked and debarked wood respectively with delivery at mill gate.

The mill management is of the view that the soft wood (conifers) are very costly and, therefore, even a continuous supply of poplars and eucalypts is most welcome.

Samples of eucalyptus wood have been tested in the mill laboratory and found suitable.

The mill management is keenly interested in any project relating to forestry development and raising of plantations of wood species suitable for use in pulping. For the past many years the management has been trying to find resources capable of supplying enough wood to meet the requirement on a sustained basis so that the management could invest in installation of suitable equipment and machinery for handling and processing of wood to make pulp. The future plans are to put up facilities for producing chemical pulp and CTMP (Chemi-Thermo-Mechanical Pulp) from wood.

However in the first instance, the mill management would prefer to deal with one single agency/management for supply of wood. At a later stage if the supply on sustained yield basis is assured, the management would be ready to buy wood from farmers.

The mill management is prepared to associate with farm-forestry, establish contacts with the farmers and negotiate with them the supply and the price and qualities of wood to be purchased.

At present, this is the only mill in Pakistan making wood pulp.

ADAMJEE PAPER & BOARD MILLS LIMITED**SEPERATE SHEET
FOR
8.2: DESCRIBE THE PULP PRODUCTION PROCESS****A. PULPING OF KAHI GRASS**

Pulping of Kahi (*Saccharum spontaneum*) grass is done in rotary batch type digesters using neutral sulphite process. The pulp made is full chemical and bleachable grade. It is blown from the digesters to the blow tank and after washing and screening, 3-4 stage bleaching (CEH) is performed to achieve pulp brightness of 70-72°GE.

B. PULPING OF WASTE COTTON

Waste cotton is cooked batchwise by soda process in rotary digesters. The pulp is dumped in pits, after cooking for proper washing, from where the same is loaded in breakers, where the long cotton fibres are shortened and transformed to a uniform length. After breaking process, the pulp is transferred to the vat bleachers, for further washing and treated with 2-3 stage Calcium Hypochlorite to achieve a brightness of 74-75°GE.

1. FIRM NAME PAKISTAN PAPER CORPORATION LTD. SERIAL NO: 2
2. CHQ ADDRESS CHARSADDA, DISTT. PESHAWAR, DATE 26-05-1990
YEAR EST. 1971

1 CONTACT MOHAMMAD YOUSAF TITLE TECHNICAL MANAGER
MILL ADDRESS SAME AS ABOVE

1 CONTACT MOIZUDDIN TITLE PRODUCTION MANAGER

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS					CAPACITY TPD
		1986	1987	1988	1989	1990	
1 <u>Writing Paper</u>	<u>56</u>	<u>7.780</u>	<u>NIL</u>	<u>9.670</u>	<u>5.100</u>	<u>---</u>	
2 <u>Cartridge Paper</u>	<u>110</u>	<u>0.003</u>	<u>NIL</u>	<u>--</u>	<u>--</u>	<u>---</u>	
3 <u>Duplicating Paper</u>	<u>68-74</u>	<u>0.500</u>	<u>NIL</u>	<u>0.270</u>	<u>--</u>	<u>---</u>	
4 <u>Brown Wrapping</u>	<u>110</u>	<u>--</u>	<u>--</u>	<u>0.002</u>	<u>--</u>	<u>100</u>	
5 OTHER							
6 TOTAL		<u>8.283</u>	<u>NIL</u>	<u>9.942</u>	<u>5.100</u>	<u>100</u>	

7 COMMENTS The grades of paper for which the machinery is installed are:
Printing paper-Litho & offset writing paper, cartridge paper & duplex board.

FULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE	ANNUAL CONSUMPTION, K-TONS	1986 1987 1988 1989 1990				
			1986	1987	1988	1989	1990
1 <u>Bagasse Pulp (BL)</u>	<u>own mill</u>		<u>3,056</u>	<u>NIL</u>	<u>7,069</u>	<u>4,869</u>	<u>NIL</u>
2 <u>Soft wood pulp (BL)</u>	<u>imported</u>		<u>1,839</u>	<u>NIL</u>	<u>1,417</u>	<u>0.121</u>	<u>NIL</u>
3 <u>Hard wood pulp (BL)</u>	<u>imported</u>		<u>2,020</u>	<u>NIL</u>	<u>0.978</u>	<u>NIL</u>	<u>NIL</u>
4 <u>Hard wood pulp (UNBL)</u>	<u>imported</u>		<u>0.543</u>	<u>NIL</u>	<u>NIL</u>	<u>NIL</u>	<u>NIL</u>
5							
6 TOTAL			<u>7,458</u>	<u>NIL</u>	<u>9,464</u>	<u>9,990</u>	<u>NIL</u>

7 COMMENTS BL = Bleached UNBL = Unbleached

FULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & TYPE	CAPACITY		PRODUCTION, K-TONS				
		BRT	TPD	1986	1987	1988	1989	1990
1 <u>Bagasse pulp</u>	<u>SODA</u>	<u>78</u>	<u>82</u>	<u>3,400</u>	<u>NIL</u>	<u>7,100</u>	<u>4,800</u>	<u>--</u>
2 <u>Straw</u>	<u>SODA/LIME</u>	<u>--</u>	<u>15</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>
3								
4								
5								
6 TOTAL				<u>3,400</u>	<u>NIL</u>	<u>7,100</u>	<u>4,800</u>	<u>--</u>

7 COMMENTS

FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD
		LOCALE	VENDOR		
1 <u>Bagasse</u>	<u>400-450/ton</u>	<u>Sugar mill</u>	<u>---</u>	<u>By Trucks/road</u>	<u>25,000 50%</u>
2 <u>Wood pulp</u>	<u>17000 to</u>	<u>---</u>	<u>Imported</u>	<u>By ship/road</u>	<u>5,000 50%</u>
3	<u>21000/ton</u>				
4					
5					
6					
7 COMMENTS					

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Fourdrinier	250	3.2 M	1970	
NO. 2	Fourdrinier	250	3.2 M	1970	
COMMENTS <u>Rewinders - 2, Sheeters - 2</u>					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 4, SIZE 60m³, PULPING CAPACITY 100 TPD
 8.2 BLEACHING: CHEMISTRY C E H; TOWERS THREE; WASHERS THREE
 8.3 OTHER COMMENTS PULP MILL IS DESIGNED FOR 82 TPD BLEACHED PULP
COOKING PROCESS IS SODA. PULP MADE LOCALLY FROM BAGASSE.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY Under ground water (wells)-1.294 mgd-clean & soft

9.2 WATER TREATMENT HYDROGEN PEROXIDE ONLY FOR BOILER MAKE UP WATER

9.3 EFFLUENT TREATMENT CLARIFIERS & AERATORS INSTALLED

9.4 STEAM GENERATED: AMOUNT 55 tons/hr; QUALITY SATURATED LOW PRESSURE

FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
Natural gas	For Boiler	11800 m ³	GAS CO.	
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW
 UNIT 1 DIESEL GENERATOR 6.00 (Used in emergency only)
 UNIT 2 --
 UNIT 3 --

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
WAPDA 90 150,000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP _____
 BRIGHTNESS THE MILL IS CLOSED
 PRICE RANGE Rs/ADT _____
 TPA _____

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE _____
 PROCESS _____
 BRIGHTNESS The mill is closed
 WOOD TYPE _____
 Rs/TON _____
 TPA AD PULP _____

COMMENTS The mill installed in the year 1971 started production
in 1972. The mill with a pulp capacity of 25,000 mt./year -
20,000 mt/year from bagasse and 5000 mt/year from straw plus
15 percent imported long fiber pulp was designed to produce
30,000 mt/year of various grades of paper. The mill with the

latest machinery was set up by financiers including Pakistan Development Finance Institutions and banks and with international financial assistance.

From its inception, the mill has been managed by as many as four public and private sector enterprises, the last one being the Sarhad Development Authority, a N.W.F.P, Provincial Government Organisation.

The mill has remained closed from June, 1986 to January, 1988 and again from January, 1990 to date.

The mill operating at a much lower production capacity than the designed one, has been undergoing loss continuously. The main reasons for losses seem to be:-

- Difficulty in import of long fiber pulp due to change in parity rates of the Pakistan's rupee and the United States dollar.
- Efforts to produce paper from pulp made from bagasse and straw only resulting in limited speed of pulp and paper machines.

Paper produced from local pulp (minus the long fiber pulp) resulted in production of low quality paper, which has marketing difficulties and also could not compete with imported good quality paper.

These factors lead to a maximum production of 10,860 metric tons/year of paper only representing 38.80 percent utilization of the production capacity.

The labour problem has also been stated to be a contributing factor.

The balance sheet for the financial year 1988-89 shows a deficit of Rs. 134,646 million which includes losses due to:-

Debt servicing	Rs. 95.280 million
Exchange rate fluctuation	Rs. 35.758 million

The Pakistan Industrial Credit & Investment Corporation (PICIC) have now started proceeding for liquidation of the mill in the NWFP High Court, Peshawar. This means that if the High Court accepts the petition of PICIC, the mill will be sold and the creditors paid from the sale proceeds. The mill can then be reactivated by its purchasers i.e., the new owners.

The whole process is likely to take about two years before the mill can start production.

The assets of the mill include 361 acres (146 hectares) of land along with buildings and plants/machinery.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

PAGE 37

1. FIRM NAME PACKAGES LIMITED SERIAL NO: 3
2. CHQ ADDRESS SHAHRAH-E-ROOMI, LAHORE-54770 DATE 27-05-1990
YEAR EST. 1967

2.1 CONTACT TARIQ HAMID TITLE DIRECTOR/GENERAL MANAGER
3. MILL ADDRESS SAME AS ABOVE

3.1 CONTACT DR. S. MUGHIS ASGHAR TITLE MANAGER (RESEARCH & DEVELOPMENT)

4. PAPER & BOARD PRODUCED GRADE	WEIGHTS g/m ²	----ANNUAL PRODUCTION, KTONS----					CAPACITY TPD
		1986	1987	1988	1989	1990	
4.1 <u>White Duplex Board</u>	<u>230-490</u>	<u>18.000</u>	<u>18.800</u>	<u>19.200</u>	<u>20.000</u>	<u>---</u>	<u>75</u>
4.2 <u>Other Bl. Boards</u>	<u>---</u>	<u>3.000</u>	<u>3.500</u>	<u>3.800</u>	<u>5.000</u>	<u>---</u>	<u>75</u>
4.3 <u>Liner, Flutting & Wrapping Paper</u>	<u>90-220</u>	<u>13.500</u>	<u>14.000</u>	<u>14.500</u>	<u>14.700</u>	<u>---</u>	<u>50</u>
4.4 <u>Misc.</u>	<u>---</u>	<u>3.400</u>	<u>3.100</u>	<u>2.800</u>	<u>2.800</u>	<u>---</u>	<u>75</u>
4.5 OTHER	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.6 TOTAL	<u>---</u>	<u>38.000</u>	<u>39.300</u>	<u>40.300</u>	<u>42.500</u>	<u>---</u>	<u>275</u>
4.7 COMMENTS	<u>---</u>						

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED TYPE/ GRADE	----SOURCE----		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990 (Projected)
5.1 <u>Unbleached</u>	<u>Own mill</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>6.000</u>	<u>6.500</u>	<u>7.000</u>
5.2 <u>Bleached</u>	<u>Own mill</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>10.500</u>	<u>11.000</u>	<u>11.000</u>
5.3 <u>Wood pulp</u>	<u>---</u>	<u>Imported</u>	<u>---</u>	<u>---</u>	<u>5.500</u>	<u>6.000</u>	<u>6.500</u>
5.4 <u>Waste paper pulp</u>	<u>Own mill</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>28.000</u>	<u>30.000</u>	<u>32.000</u>
5.5	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
5.6 TOTAL	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>50.000</u>	<u>53.500</u>	<u>56.500</u>
5.7 COMMENTS	<u>---</u>						

6. PULP PRODUCTION & CAPACITY TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990
6.1 <u>Unbleached</u>	<u>NSSC & CEH</u>	<u>24</u>	<u>---</u>	<u>---</u>	<u>6.500</u>	<u>7.000</u>	<u>---</u>
6.2 <u>Bleached</u>	<u>Bleaching</u>	<u>80°C/40</u>	<u>---</u>	<u>---</u>	<u>11.000</u>	<u>11.000</u>	<u>---</u>
6.3	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.4	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.5	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.6 TOTAL	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>17.500</u>	<u>18.000</u>	<u>---</u>
6.7 COMMENTS	<u>Wheat straw pulp (bleached) costs Rs. 8,000 to 9,000/ton</u>						

7. FIBER SUPPLY - ALL TYPES & SOURCES TYPE/SPECIES	COST Rs/UNIT	----SOURCE----		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD
		LOCALE	VENDOR		
7.1 <u>Wheat straw</u>	<u>550/ton</u>	<u>Farmers</u>	<u>---</u>	<u>By road/rail</u>	<u>35.0 50%</u>
7.2 <u>Kahi Grass</u>	<u>400/ton</u>	<u>Local dealer</u>	<u>---</u>	<u>By road/rail</u>	<u>20.0 90%</u>
7.3 <u>Waste paper</u>	<u>5000/ton</u>	<u>Local dealer</u>	<u>---</u>	<u>By road/rail</u>	<u>40.0 90%</u>
7.4 <u>Wood pulp</u>	<u>20000/ton</u>	<u>---</u>	<u>Imported</u>	<u>By ship & rail</u>	<u>6.0 --</u>
7.5	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.6	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.7 COMMENTS	<u>Imported from Sweden, Canada, Brazil through Remizzo, Elof Hasson. Kenaf was tried as a raw material 15 years back but continuous supply was not available & hence discontinued.</u>				

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Combination	100	270	1968	
NO. 2	Duplex fourdriner	250	180	1984	

COMMENTS Also has a Yankee machine of 10 TPD
Rewinders-3, Sheeters-1 & coating equipment

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NC. OF DIGESTERS 8, SIZE 36-40m³ PULPING CAPACITY 60 TPD

8.2 BLEACHING: CHEMISTRY *; TOWERS Cylindrical WASHERS Rotary filter

8.3 OTHER COMMENTS *Three stage bleaching i.e. chlorination,
extraction & Sodium Hypochloride.

9. UTILITIES & POWER INFORMATION Under ground water (wells)-

9.1 WATER SOURCE, VOLUME & QUALITY 5.163mgd-clean & soft

9.2 WATER TREATMENT No treatment done as the water is clean & soft

9.3 EFFLUENT TREATMENT Screening & sedimentation

9.4 STEAM GENERATED: AMOUNT 40 t/hr; QUALITY 60 Kg/m² superheated

9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

<u>Natural gas</u>	<u>For boiler</u>	<u>150,000m³</u>	<u>Gas co.</u>	
<u>Furnace oil</u>		<u>300 ton</u>	<u>Local dealers</u>	

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1 6

UNIT 2 10 MW (Under erection)

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

WAPDA 4.0 MW 96,000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP

BRIGHTNESS

PRICE RANGE Rs/ADT

TFA

Not at this stage

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE

PROCESS

BRIGHTNESS

WOOD TYPE

Rs/TON

TFA AD PULP

COMMENTS The mill is the most balanced and premier pulp and paper

mill in the country. It has a paper & paper board capacity of

42500 mt/year which includes 3.500 mt of paper & 39,000 mt of

paper board. The principal products are:-

- Printing & writting - 700 mt/y (wood free)

-	Packing/industrial	-	2000 mt/y
-	Tissue/hygienic	-	800 mt/y
-	Kraft/Liverboard	-	8000 mt/y
-	Corrugating medium	-	7000 mt/y
-	Folding box board	-	22,000 mt/y
-	Others	-	2,000 mt/y

The paper and board grades include box board-folding and container, corrugated medium, creping tissue, cup stock, duplex board, household tissue, kraft paper, kraft wrapping, liverboard-kraft, photocopy base paper, poster paper, printing paper (offset), shoe board.

The expansion plans include increasing the mill capacity to 50,000 mt/year. The expansion and modernisation program's cost is estimated to be about Rs. 2.500 billion.

The mill has a fine laboratory and has tested Eucalyptus Camaldulensis wood of ages 5 to 8 years from the Punjab and Sindh and found these woods suitable for pulp manufacture. The mill can put up pulp plant for manufacture of pulp from Eucalyptus wood and also from the poplar wood, which has also been found suitable for pulp manufacture, providing there is continuous supply of wood and the price of the pulp produced locally works out to be less than the imported pulp.

The mill management estimates that for pulp making the cost of wood with delivery at the mill gate should be about Rs. 800/ton (ADW)

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

FIRM NAME Premier Paper Mills Limited SERIAL NO: 4
 CHQ ADDRESS 7.5 Km Lahore Road, DATE 18-05-1990
Sheikhupura (Punjab) YEAR EST. 1981
 CONTACT Mohammad Saeed TITLE Director
 MILL ADDRESS Same as above

CONTACT Mohammad Hanif Malik TITLE Production Manager/
Mill Manager

PAPER & BOARD PRODUCED GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
Writing & Printing	56	8.452	9.161	9.209	8.733	30
Wrapping & Packing	110	--	--	0.097	0.123	
OTHER						
TOTAL		8.452	9.161	9.306	8.856	
COMMENTS						

PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
Wheat straw	Own mill		8.969	9.619	9.666	9.403	
Wheat pulp		Imported	2.990	3.206	3.222	3.135	
TOTAL			11.959	12.825	12.888	12.538	
COMMENTS							

PULP PRODUCTION & CAPACITY TYPE/ GRADE	PROCESS & CAPACITY			PRODUCTION, K-TONS				
	TYPE	BRT	TPD	1986	1987	1988	1989	1990
Wheat straw	N&C	75°	30	8.969	9.619	9.666	9.403	
TOTAL				8.969	9.619	9.666	9.403	
COMMENTS <u>Wheat straw pulp costs Rs. 14000/ton</u>								

PAPER SUPPLY - ALL TYPES & SOURCES TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT		CONSUMPT.	
		LOCALE	VENDOR	FORM	VIA	KTPA	@%OD
Wheat straw	525/ton	Farmers	--	Road		31.500	50%
Wheat pulp	22380/ton		Imported	Ship & rail		3.200	90%
COMMENTS							

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST. & COMMENTS
NO. 1	Roundriner	160	290	1985

NO. 2

COMENTS Rewinders-2, Sheeters-1 and super-calender-1.

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 3, SIZE 15m³, PULPING CAPACITY 25 TPD

8.2 BLEACHING: CHEMISTRY CEH; TOWERS 4; WASHERS 4 Nos.

8.3 OTHER COMMENTS Thickeners 6 Nos.

Digesters are of batch type.

9. UTILITIES & POWER INFORMATION Underground water (wells)-

9.1 WATER SOURCE, VOLUME & QUALITY 2.676 mgd-clean and soft.

9.2 WATER TREATMENT No treatment done as water is clean and soft.

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 2 tons /Hr; QUALITY

9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

Natural gas For boiler 1000m³ Local dealer

Furnace Oil 25 ton Local dealer

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW.

UNIT 1

UNIT 2 Nil

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

WAPDA 2.2 52,800

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP Medium length

BRIGHTNESS 80-85° GE

PRICE RANGE Rs/ADT 15000

TFA 1500

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE Medium length

PROCESS NSSC

BRIGHTNESS 82° GE

WOOD TYPE Eucalyptus

Rs/TON 5000

TFA AD PULP 1500

COMMENTS The mill produces non-fiber pulp from wheat straw and imports

the fiber pulp.

Wheat straw pulp: Wheat straw is purchased at Rs. 525/ton (ADW).

The following are the losses upto the stage of pulp production.

-	Moisture Content	-	15%
-	Impurities	-	5%
-	Storage losses	-	<u>10%</u>
	Total:		<u>30%</u>

Thus the losses, on an average, are 30%. The price of wheat straw minus the losses required for producing pulp will thus be Rs. 750/ton. The pulp yield by NSSC process being 40%, the cost of wheat straw required to produce one ton of pulp would be Rs. 1875. Adding the cost of chemicals and other costs the mill management estimates the cost of pulp produced from wheat straw at Rs. 12000/ton.

The cost of imported wood pulp at the mill gate is Rs. 22,380/=.

The mill management is ready to buy Eucalyptus or poplar wood pulp at a price of about Rs. 16,000/ton.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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SERIAL NO: _____

1. FIRM NAME Ghazi Paper Mills Limited DATE 28-05-1990
 2. CHQ ADDRESS 51, Aibak Block, New Garden Town YEAR EST. 1983
Lahore
 2.1 CONTACT _____ TITLE _____
 3. MILL ADDRESS 31 Km. Lahore Road, P.O. Kot Saleem,
Sheikhupura (Punjab)
 3.1 CONTACT M. Hameed Akhtar Khokar TITLE Factory Manager

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
4.1 Writing/Printing	55	3.490	4.216	1.950	4.002	30
4.2 paper						
4.3						
4.4						
4.4						
4.5 OTHER						
4.6 TOTAL		3.490	4.216	1.950	4.002	
4.7 COMMENTS	<u>The mill remained closed for a long time during 1988</u>					

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE	LOCALE	VENDOR	ANNUAL CONSUMPTION, K-TONS				
				1986	1987	1988	1989	1990 (Upto June)
5.1 Straw Pulp (BL)	Own mill			NA	NA	NA	3.200	1.700
5.2 Wood pulp imported (BL)	Imported			NA	NA	NA	1.700	1.500
5.3								
5.4								
5.5								
5.6 TOTAL				NA	NA	NA	4.900	3.200
5.7 COMMENTS	<u>NA = Not available. The mill has additional bleaching capacity of 50 tons/day.</u>							

6. PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY			PRODUCTION, K-TONS				
	TYPE	ERT	TPD	1986	1987	1988	1989	1990
6.1 Straw pulp	sulphite	75	12	2.500	3.000	1.400	3.200	1.700
6.2								
6.3								
6.4								
6.5								
6.6 TOTAL				2.500	3.000	1.400	3.200	1.700
6.7 COMMENTS	<u>See additional sheet attached</u>							

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD
		LOCALE	VENDOR		
7.1 Wheat Straw	525/ton	Farmers		By road	15.000 50%
7.2 Wood pulp	23000/ton		Imported	Ship & rail	1.500 90%
7.3					
7.4					
7.5					
7.6					
7.7 COMMENTS					

REF. GWA1-W0052201.F

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WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	fourdrinier	125	250	1984	
NO. 2					
COMMENTS Second Hand Machine was purchased & installed Rewinders-1, Sheetters-3.					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 5, SIZE 25m³, PULPING CAPACITY 20 TPD
 8.2 BLEACHING: CHEMISTRY CEM; TOWERS THREE; WASHERS 5 NOS.
 8.3 OTHER COMMENTS Digesters are of batch type.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY Underground water (wells)- 292 mgd-clean and soft.

9.2 WATER TREATMENT No treatment done as water is clean & soft.

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 2 tons / hr; QUALITY Superheated

FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
	Natural gas For boiler	725,000	m ³	
	Furnace oil For boiler	1,080	ton	
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW,
 UNIT 1 _____
 UNIT 2 Nil
 UNIT 3 _____

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
WAPDA 1.25 18720

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP	<u>soft wood pulp</u>		
BRIGHTNESS	<u>80°GE</u>		
PRICE RANGE Rs/ADT	<u>15,000</u>		
TPA	<u>2,000</u>		

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE	_____		
PROCESS	_____		
BRIGHTNESS	_____		
WOOD TYPE	<u>Not at present</u>		
Rs/TON	_____		
TPA AD PULP	_____		

COMMENTS The mill is imbalanced, It has additional bleaching capacity of 50 tons/day.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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SERIAL NO: 6
DATE 28-05-90
YEAR EST. 1983

1. FIRM NAME SAMPAK PAPER & BOARD MILLS LTD.
2. CHQ ADDRESS 14-RACE COURSE ROAD,
P.O. BOX 2060, LAHORE
2.1 CONTACT MOHAMMAD MAGHFOOR TITLE MANAGING DIRECTOR
3. MILL ADDRESS 31ST KM, LAHORE-SHEIKHUPURA ROAD, P.O. SALIMKOT
DISTRICT SHEIKHUPURA-39351 (Punjab)
3.1 CONTACT MAHBOOB ALI TITLE GENERAL MANAGER (TECH.)

4. GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
4.1 <u>WHITE DUPLEX BOARD</u>	<u>220</u>	<u>8.055</u>	<u>11.204</u>	<u>12.385</u>	<u>13.307</u>	<u>40</u>
4.2	<u>TO</u>					
4.3	<u>350</u>					
4.4						
4.4						
4.5 OTHER						
4.6 TOTAL		<u>8.055</u>	<u>11.204</u>	<u>12.385</u>	<u>13.307</u>	
4.7 COMMENTS						

5. TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
5.1 <u>W/STRAW BL</u>	<u>Own mill</u>	<u>--</u>	<u>NA</u>	<u>NA</u>	<u>5.141</u>	<u>5.133</u>	
5.2 <u>W/STRAW UNBL</u>	<u>Own mill</u>	<u>--</u>	<u>NA</u>	<u>NA</u>	<u>--</u>	<u>0.277</u>	
5.3 <u>WASTE PAPER</u>	<u>Own mill</u>	<u>--</u>	<u>NA</u>	<u>NA</u>	<u>8.127</u>	<u>9.461</u>	
5.4 <u>WOOD PULP BL</u>	<u>--</u>	<u>EUROPE & AMERICAN</u>	<u>NA</u>	<u>NA</u>	<u>0.568</u>	<u>0.762</u>	
5.5 <u>WOOD PULP UNBL</u>	<u>--</u>	<u>COUNTRIES</u>	<u>NA</u>	<u>NA</u>	<u>0.136</u>	<u>0.028</u>	
5.6 TOTAL			<u>NA</u>	<u>NA</u>	<u>13.972</u>	<u>15.661</u>	
5.7 COMMENTS							

6. TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990
6.1 <u>WHEAT STRAW</u>	<u>NSSC</u>	<u>78 30</u>			<u>5.311</u>	<u>5.368</u>	
6.2 <u>& KAHI GRASS</u>	<u>TO</u>						
6.3 <u>Waste paper</u>		<u>80</u>			<u>8.127</u>	<u>9.461</u>	
6.4							
6.5							
6.6 TOTAL					<u>13.438</u>	<u>14.829</u>	
6.7 COMMENTS							

7. TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT		CONSUMPT.	
		LOCALE	VENDOR	FORM	VIA	KTPA	%OD
7.1 <u>WHEAT STRAW</u>	<u>400/ton</u>	<u>Farmers &</u>	<u>--</u>	<u>ROAD & RAIL</u>	<u>21.781</u>	<u>50 to</u>	
7.2 <u>& KAHI GRASS</u>		<u>Local dealers</u>				<u>90%</u>	
7.3 <u>Waste paper</u>	<u>5000/ton</u>	<u>Local dealer</u>		<u>Road</u>	<u>12.231</u>	<u>80%</u>	
7.4 <u>Wood pulp (BL)</u>	<u>24000</u>		<u>Imported</u>	<u>Ship & Rail</u>	<u>0.700</u>	<u>90%</u>	
7.5 <u>Wood pulp (UNBL)</u>	<u>17000</u>				<u>0.200</u>	<u>90%</u>	
7.6							
7.7 COMMENTS							

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Combination	150	20	1983	
NO. 2					
COMMENTS					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 3, SIZE 45m³, PULPING CAPACITY 30 TPD

8.2 BLEACHING: CHEMISTRY CEH; TOWERS 5; WASHERS 7

8.3 OTHER COMMENTS The digesters are of batch type. The bleaching system is one.

9. UTILITIES & POWER INFORMATION Underground water (wells)-1.390 mgd-

9.1 WATER SOURCE, VOLUME & QUALITY clean and soft.

9.2 WATER TREATMENT zeolite Base Exchange (For boiler only)

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 20 tons / Hr; QUALITY Saturated

FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
<u>Natural gas</u>	<u>For boiler</u>	<u>6,300,000m³</u>	<u>Gas Co.</u>	<u>Used from 1st March to 30th Nov. each year</u>
<u>Kerosene Oil</u>	<u>For boiler</u>	<u>1,440 ton</u>	<u>Local dealer</u>	<u>From 1st Dec. to 28th Feb. each year</u>
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1 Nil

UNIT 2

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWHr/DAY CONSUMED

WAPDA 2.5 45,000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP	<u>Long fiber</u>			
BRIGHTNESS	<u>88°GE</u>			
PRICE RANGE Rs/ADT	<u>15000</u>			
TPA	<u>700</u>			

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE	<u>Kraft pulp long fiber</u>			
PROCESS	<u>Kraft/NSSC</u>			
BRIGHTNESS	<u>88°GE</u>			
WOOD TYPE	<u>Pine/Eucalyptus/Poplar</u>			
Rs/TON	<u>500</u>			
TPA AD PULP	<u>15000</u>			

COMMENTS The mill with paper and paperboard capacity of 2000 and 12000

ton/year respectively i.e. total 14000 tons is currently importing about 750

tons of wood pulp. The mill management are deeply interested in pulp

manufacture locally providing there is assured continuous supply of pine,

and eucalyptus wood.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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SERIAL NO: 7
DATE 29-05-1990
YEAR EST. 1990

1. FIRM NAME CENTURY PAPER & BOARD MILLS LTD.
2. CHQ ADDRESS LAKSON SQUARE, BUILDING NO.2,
SARWAR SHAHEED ROAD, KARACHI

2.1 CONTACT _____ TITLE _____
3. MILL ADDRESS BIAI PHERU, LAHORE-MULTAN ROAD, DIST. KASUR (Punjab)

3.1 CONTACT KHALID SALEEM TITLE GENERAL MANAGER (PROJECT)

4. PAPER & BOARD PRODUCED GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989 (Projected)	
4.1 <u>Waste Duplex Board</u>	<u>230</u>				<u>19.800</u>	<u>60</u>
4.2 <u>WRITING PAPER</u>	<u>60</u>				<u>9.900</u>	<u>30</u>
4.3 <u>TISSUE PAPER</u>	<u>16</u>				<u>1.000</u>	<u>9</u>
4.4 <u>POSTER PAPER</u>	<u>40</u>				<u>2.860</u>	<u>13</u>
4.4 _____						
4.5 OTHER						
4.6 TOTAL						
4.7 COMMENTS					<u>33.560</u>	<u>112</u>

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCAL	VENDOR	1986	1987	1988	1989	1990 (PROJECTED)
5.1 <u>WOOD PULP</u>		<u>GEORGIA PAC</u>					<u>6.200</u>
5.2 <u>STRAW PULP</u>	<u>Own mill</u>	<u>--</u>					<u>16.700</u>
5.3 <u>WASTE PAPER PULP</u>	<u>" "</u>	<u>--</u>					<u>10.700</u>
5.4 _____							
5.5 _____							
5.6 TOTAL							<u>33.600</u>
5.7 COMMENTS							

6. PULP PRODUCTION & CAPACITY TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990 (PROJECTED)
6.1 <u>STRAW PULP</u>	<u>SULPHITE/</u>	<u>80 100</u>					<u>33.000</u>
6.2 <u>WASTE PAPER PULP</u>	<u>IMPA PULPING</u>	<u>80</u>					<u>26.400</u>
6.3 _____							
6.4 _____							
6.5 _____							
6.6 TOTAL		<u>180</u>					<u>59.400</u>
6.7 COMMENTS							

7. FIBER SUPPLY - ALL TYPES & SOURCES TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT		CONSUMPT. KTPA @%OD
		LOCAL	VENDOR	FORM VIA	ROAD	
7.1 <u>WOOD PULP</u>	<u>26000/ton</u>	<u>--</u>	<u>GEORGIA PAC</u>	<u>U.S.A</u>	<u>SHIP &</u>	<u>6.200 90%</u>
7.2 <u>WHEAT STRAW</u>	<u>400/ton</u>	<u>Farmer</u>			<u>ROAD</u>	<u>100.000 80%</u>
7.3 <u>WASTE PAPER</u>	<u>3000/ton</u>	<u>Local dealer</u>			<u>ROAD</u>	<u>38.000 70%</u>
7.4 _____						
7.5 _____						
7.6 _____						
7.7 COMMENTS						<u>Wheat Straw & Waste Paper are locally available. The mill can also use Kahu grass in place of wheat straw.</u>

PROCESS INFORMATION AS APPROPRIATE

1 PAPER MACHINES:

	TYPE	SPEED, m/m	TRIM, cm	YR INST. & COMMENTS
NO. 1	Combination	30-130	240	1990
NO. 2	Rundlings	30-160	240	1990
COMENTS	YANKEE	100-350	180	1990

DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)
NO. OF DIGESTERS 5, SIZE 60m³, PULPING CAPACITY 75 TPD
BLEACHING: CHEMISTRY C.E.H.; TOWERS 3; WASHERS 3+3 = 6
OTHER COMMENTS Two storage towers are in addition to reaction towers.
3 more digesters of 60m³ each are planned to be installed.

UTILITIES & POWER INFORMATION

WATER SOURCE, VOLUME & QUALITY Underground water(wells)-0834 mgd
WATER TREATMENT clean and soft
EFFLUENT TREATMENT SEDIMENTATION TANK BEFORE DISPOSAL.

STEAM GENERATED: AMOUNT 40T/hr; QUALITY SATURATED/SUPER HEATED. 468 BAR

FUELS: USE AMT/YEAR SOURCE COMMENTS

FURNACE OIL 26400 PAKISTAN STATE OIL CO. LTD.

TOTAL 26400

ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 NIL

UNIT 3

ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

WAPDA 7.7 144000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP	S.W.K.	H.W.K (EU)	S.W(SULPHITE)	B.C.T.M.P (TISSUE)
RIGHTNESS	86°C.E	86°C.E	86°C.E	80°C.E
RICE RANGE Rs/ADT	16000	12000	14000	14000
FA	3500	100	200	300

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD? YES

PULP TYPE	LOCAL HARD WOOD	LOCAL SOFT WOOD
PROCESS	NEUTRAL SULPHITE KRAFT	
BRIGHTNESS	+85°	
WOOD TYPE	EUCALYPTUS & CONIFERS	
YIELD /TON	500	
WATER REQUIRED PER TON OF PULP	5000	

Comments Century Paper & Board Mills with a capacity 30,000 tons/years is

most recent (1990) pulp and paper industry . The management is ready to

invest 3 digestors to manufacture pulp from Eucalyptus camaldulensis wood

and the required raw material and other necessary supplies are assured.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

PAGE 49

SERIAL NO: 8
DATE 30-05-1990
YEAR EST. 1983

1. FIRM NAME Jubilee Paperboard Mills Ltd.
2. CHQ ADDRESS Gujranwala

2.1 CONTACT Sheikh Mumtaz TITLE Director/General Manager
3. MILL ADDRESS G.T. Road, Kamoke Distt: Gujranwala (Punjab)

3.1 CONTACT Hafiz Maqsood Ahmed TITLE Mill Manager

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS					CAPACITY
		1986	1987	1988	1989	1990 (Projected)	
4.1 Duplex Board	350	--	--	--	--	3,000	50
4.2							
4.3							
4.4							
4.5 OTHER							
4.6 TOTAL	350					3,000	50
4.7 COMMENTS	<u>Duplex board is made specially for manufacture of textile cones</u>						

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE	VENDOR	ANNUAL CONSUMPTION, K-TONS				
			1986	1987	1988	1989	1990 (Projected)
5.1 Wheat Straw	Own mill						7,200
5.2 Waste paper	Own mill						5,000
5.3 Bleached Kraft		Imported					1,000
5.4 Unbleached Kraft							1,200
5.5							
5.6 TOTAL							14,400
5.7 COMMENTS							

6. PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990 (Projected)
6.1 Wheat Straw	Soda/Lime	75*GE 50					7,200
6.2 Waste Paper							5,000
6.3							
6.4							
6.5							
6.6 TOTAL							12,200
6.7 COMMENTS	<u>Sulfide process is to be added shortly</u>						

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT.	
		LOCALE	VENDOR		KTPA	%OD
7.1 Wheat Straw	450/ton	Farmers		Road	12,000	90%
7.2 Waste paper	3000/ton	Local dealer		Road	10,000	50%
7.3 Wood pulp	20,000/ton		Canada	Ship & Rail	2,200	90%
7.4						
7.5						
7.6						
7.7 COMMENTS						

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Cylinder	300	290	1983	
NO. 2					
COMENTS					

3.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 2, SIZE 3.6m³ PULPING CAPACITY 12 TPD

8.2 BLEACHING: CHEMISTRY CCH; TOWERS 1; WASHERS 4

8.3 OTHER COMMENTS Experiment on direct bleaching under way.

Electrolyte process has been done by the mill with success.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY Under ground water (well)-1:292 mgd-clear & so

9.2 WATER TREATMENT NIL

9.3 EFFLUENT TREATMENT NIL

9.4 STEAM GENERATED: AMOUNT 6 tons/hr QUALITY WET

9.5 FUELS: USE For Boiler AMT/YEAR 2,700 ton SOURCE Local dealer COMMENTS

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 NIL

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
WAPDA 3.0 Figures not available

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP? YES

GRADE OF PULP	<u>MEDIUM LENGTH</u>		
BRIGHTNESS	<u>80-85°GE</u>		
PRICE RANGE Rs/ADT	<u>15000</u>		
TFA	<u>1500</u>		

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE	<u>MEDIUM LENGTH</u>		
PROCESS	<u>SULPHATE</u>		
BRIGHTNESS	<u>80°GE</u>		
WOOD TYPE	<u>Eucalyptus & Poplar</u>		
Rs/TON	<u>500</u>		
TFA AD PULP	<u>15000</u>		

COMMENTS The mill with paperboard capacity of 15000 mt./year
10,000 mt/year test liner board and 5000 mt/year folding box
board) was installed in 1983. The mill was closed due to some
financial and technical reasons. The mill under new ownership &
management has re-opened on 1st January, 1990. (Contd on Page 3)

The mill has the necessary machinery (except the chipper) installed initially in the year 1983 for making pulp from wood. The mill was getting chipped wood from the match factories. The plant can be reactivated with addition of a chipper. The reasons for not using the wood is that poplar wood is too costly because of its use by the match and sports goods industries and Eucalyptus wood is not available on sustained yield basis. According to Mill management the pulp wood (Poplar or Eucalyptus) costing Rs. 500 per ton with delivery at mill gate will produce pulp which would be economical for the mill.

The mill management is prepared to use wood for producing 50 tons of pulp per day.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

SERIAL NO: 9

1. FIRM NAME Sultan Paper Board Mills (Pvt) Ltd. DATE 30-05-1990
2. CHQ ADDRESS 18A, Small Industries Estate YEAR EST. 1968
Gujranwala (Punjab)
2.1 CONTACT Chowdhry Mohammad Shaobir TITLE Director
3. MILL ADDRESS Same as CHQ address

3.1 CONTACT Mr. Mohammad Saleem TITLE Process Manager

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS					CAPACITY TPD
		1986	1987	1988	1989	1990	
4.1 <u>Paper Board</u>	<u>250 to</u>	<u>0.365</u>	<u>0.889</u>	<u>0.728</u>	<u>0.719</u>		<u>3</u>
4.2	<u>350</u>						
4.3							
4.4							
4.4							
4.5 OTHER							
4.6 TOTAL							
4.7 COMMENTS	<u>This is a small mill with an installed capacity of 500 tons/year</u>						

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
5.1 <u>Wheat straw pulp</u>	<u>Own mill</u>	<u>--</u>	<u>0.310</u>	<u>0.803</u>	<u>0.719</u>	<u>0.701</u>	
5.2 <u>Waste paper</u>	<u>Own mill</u>	<u>--</u>	<u>0.237</u>	<u>0.500</u>	<u>0.318</u>	<u>0.377</u>	
5.3 PULP							
5.4							
5.5							
5.6 TOTAL			<u>0.547</u>	<u>1.303</u>	<u>1.037</u>	<u>1.078</u>	
5.7 COMMENTS							

6. PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990
6.1 <u>Wheat straw pulp</u>	<u>70°</u>	<u>5</u>	<u>0.310</u>	<u>0.803</u>	<u>0.719</u>	<u>0.701</u>	
6.2 <u>Waste paper pulp</u>	<u>70°</u>		<u>0.237</u>	<u>0.500</u>	<u>0.318</u>	<u>0.377</u>	
6.3							
6.4							
6.5							
6.6 TOTAL			<u>0.547</u>	<u>1.313</u>	<u>1.037</u>	<u>1.078</u>	
6.7 COMMENTS							

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT		CONSUMPT.	
		LOCALE	VENDOR	FORM	VIA	KTPA	%OD
7.1 <u>Wheat straw</u>	<u>450/ton</u>	<u>Farmers</u>	<u>--</u>	<u>Road</u>		<u>2.800</u>	<u>50%</u>
7.2 <u>Waste paper</u>	<u>3500/ton</u>	<u>Local dealer</u>	<u>--</u>	<u>Road</u>		<u>0.500</u>	<u>90%</u>
7.3							
7.4							
7.5							
7.6							
7.7 COMMENTS							

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Fourdrinier	100	150	1968	
NO. 2					
COMMENTS					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 1, SIZE 1.8m³, PULPING CAPACITY 3 TPD
 8.2 BLEACHING: CHEMISTRY CCH; TOWERS 1; WASHERS 2
 8.3 OTHER COMMENTS

9. UTILITIES & POWER INFORMATION Underground water (well)-0.400 mgd.

9.1 WATER SOURCE, VOLUME & QUALITY clean and soft.

9.2 WATER TREATMENT No treatment done as the water is clean and soft.

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 1/2 ton /hr; QUALITY

FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
	Furnace Oil for boiler	500 ton	Local dealer	
	TOTAL	500 ton		

9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

TOTAL 500 ton

9.6 ELECTRICITY GENERATED: TYPE, MW, UNIT 1

UNIT 2 Nil

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
 0.02 240

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP				
BRIGHTNESS		NO		
PRICE RANGE Rs/ADT				
TPA				

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULF TYPE				
PROCESS				
BRIGHTNESS		NO		
WOOD TYPE				
Rs/TON				
TPA AD PULP				

COMMENTS This is one of the small mills with capacity of less than 1000 tons/year. The mill is neither interested in using wood pulp nor in producing pulp from wood.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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1. FIRM NAME Dadaboy Paper Mills (Pvt) Ltd. SERIAL NO: 10
 2. CHQ ADDRESS Plot No. 8, Sector 29, DATE 12-06-1990
Korangi Industrial Area, Karachi (Sindh) YEAR EST. 1968
 2.1 CONTACT Mr. Suleman Dadaboy TITLE Director
 3. MILL ADDRESS Same as CHQ address
 3.1 CONTACT Mr. Suleman Dadaboy TITLE Director

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
4.1 Wrapping	100	2.387	3.252	3.360	3.701	12
4.2 and	to 160					
4.3 Packing						
4.4 Paper						
4.4						
4.5 OTHER						
4.6 TOTAL		2.387	3.252	3.360	3.701	
4.7 COMMENTS						

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

GRADE	TYPE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
		LOCALE	VENDOR	1986	1987	1988	1989	1990
5.1 Waste paper pulp	Own mill		--	2.625	3.577	3.696	4.071	
5.2								
5.3								
5.4								
5.5								
5.6 TOTAL				2.625	3.577	3.696	4.071	
5.7 COMMENTS								

6. PULP PRODUCTION & CAPACITY

GRADE	TYPE	PROCESS & CAPACITY		PRODUCTION, K-TONS					
		TYPE	BRT	TPD	1986	1987	1988	1989	1990
6.1 Waste Paper pulp	Hydro-			15	2.625	3.577	3.696	4.071	
6.2	pulper &								
6.3	beater								
6.4									
6.5									
6.6 TOTAL					2.625	3.577	3.696	4.071	
6.7 COMMENTS									

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT.	
		LOCALE	VENDOR		KTPA	@%OD
7.1 Waste paper	3000/ton	Local dealer		By trucks	5000	90%
7.2				within city		
7.3						
7.4						
7.5						
7.6						
7.7 COMMENTS						

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Fourdrinier	100	150	1968	
NO. 2					
COMMENTS					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS --, SIZE --, PULPING CAPACITY 15 TPD

8.2 BLEACHING: CHEMISTRY --; TOWERS --; WASHERS --

8.3 OTHER COMMENTS The mill recycles waste paper & uses hydropulper and beaters.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY KWASB - 0.050 mgd - Potable water

9.2 WATER TREATMENT Water is potable and is from the same source as for supply to Karachi cit.

9.3 EFFLUENT TREATMENT NIL

9.4 STEAM GENERATED: AMOUNT 4 ton / hr; QUALITY Ordinary

9.5 FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
	Natural gas for boiler	9,600 m ³	Gas company	Price Rs. 1.66/m ³
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 NIL

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

	K.E.S.C	0.2	5,000
--	---------	-----	-------

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP UNBLEACHED WOOD PULP

BRIGHTNESS 80°

PRICE RANGE Rs/ADT 15000

TFA 1500

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE

PROCESS

BRIGHTNESS NO

WOOD TYPE

Rs/TON

TFA AD PULP

COMMENTS The mill recycles the waste paper.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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FIRM NAME Security Papers Limited SERIAL NO: 11
 CHQ ADDRESS 116 SIDCO Centre, Strachan Road, Karachi (Sindh) DATE 18-06-1990
 CONTACT Mr. A.B. Soomro TITLE Managing Director
 MILL ADDRESS Jinnah Avenue, Malli Hall, Karachi-75100 (Sindh)
 CONTACT Mr. M.A. Wattoo TITLE Mill Manager

PAPER & BOARD PRODUCED

GRADE	WEIGHTS	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
Printing Paper	g/m ²					
Banknote Paper	83/87	1.071	1.078	1.160	1.133	4
Security Paper	70-120	0.078	0.062	0.102	0.144	
OTHER						
TOTAL		1.149	1.140	1.262	1.277	

COMMENTS This is the finished production. The machine production is 24% more. The production is limited to demand of the Government for printing.

PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED of banknote & security paper

GRADE	TYPE/	SOURCE		ANNUAL CONSUMPTION, K-TONS				
		LOCALE	VENDOR	1986	1987	1988	1989	1990 (to date)
Waste		OWN MILL	--	1.550	1.690	1.810	1.730	1.780
Waste		OWN MILL	--					
TOTAL								

COMMENTS

PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990 (to date)
Mechanical	Soda	77% 5.500	1.550	1.690	1.810	1.730	1.780
TOTAL			5.500	1.550	1.690	1.810	1.780

COMMENTS

FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD
		LOCALE	VENDOR		
Waste cotton	1760/ton	Cotton mills		Road & Rail	3,560 90%
COMMENTS					

7WA1-W0052201.F

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Cylinder Mould	22.86	208	1969	
NO. 2					
COMMENTS: <u>Sheeters-1, Supercalenders-1.</u>					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS TWO, SIZE 10 m³ PULPING CAPACITY 5.5 TPD

8.2 BLEACHING: CHEMISTRY Hypo; TOWERS 1; WASHERS X

8.3 OTHER COMMENTS Spherical rotatory digester, washing in the digester single stage bleaching with calcium hypo chlorite; Bleaching & washing the Hollander Breakers.

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY KWSB, 1,000 mgd potable water

9.2 WATER TREATMENT Alum/Filtration

9.3 EFFLUENT TREATMENT Alum-dosing

9.4 STEAM GENERATED: AMOUNT 7 tons /hr; QUALITY Superheated

9.5 FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
	<u>Natural gas for boiler</u>	<u>101,880m³</u>	<u>Kalachi Gas Co.</u>	
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1	
UNIT 2	<u>Nil</u>
UNIT 3	

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

KESC 1.8 38,400

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP			
BRIGHTNESS		<u>NO</u>	
PRICE RANGE Rs/ADT			
TPA			

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE			
PROCESS			
BRIGHTNESS		<u>NO</u>	
WOOD TYPE			
Rs/TON			
TPA AD PULP			

COMMENTS The mill is a Government enterprizes with a specific purpose for production of bank notes and security papers. The mill cannot use wood pulp and is therefore not interested in it.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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SERIAL NO: 12

FIRM NAME City Paper & Card Board Industries DATE 23-06-1990
 CHQ ADDRESS 2, Falak Chambers, (PVT) LTD YEAR EST. 1988
Abdullah Haroon Road, Saddar, Karachi (Sindh)
 1 CONTACT Muhammad Ibrahim Patel TITLE Chief Executive
 MILL ADDRESS A-139, S.T.E. Nooriabad, Distt: Dadu (Sindh)

CONTACT Muhammad Abbas TITLE Director

PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
1 <u>Wrapping</u>	<u>110</u>	<u>Nil</u>	<u>Nil</u>	<u>0.886</u>	<u>2.388</u>	<u>30</u>
2 <u>Packing Paper</u>						
3 <u>(Printing Papers)</u>						
4						
5 OTHER						
6 TOTAL						
7 COMMENTS						

FULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
1 <u>Waste paper</u>	<u>Own mill</u>	<u>--</u>	<u>Nil</u>	<u>Nil</u>	<u>0.975</u>	<u>2.626</u>	
2							
3							
4							
5							
6 TOTAL			<u>Nil</u>	<u>Nil</u>	<u>0.975</u>	<u>2.626</u>	
7 COMMENTS							

FULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY			PRODUCTION, K-TONS				
	TYPE	BRT	TPD	1986	1987	1988	1989	1990
1 <u>Waste paper</u>	<u>Hydro pulper</u>	<u>70</u>		<u>Nil</u>	<u>Nil</u>	<u>0.975</u>	<u>2.626</u>	
2	<u>& beater</u>							
3								
4								
5								
6 TOTAL				<u>Nil</u>	<u>Nil</u>	<u>0.975</u>	<u>2.626</u>	
7 COMMENTS								

FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT		CONSUMPT.	
		LOCALE	VENDOR	FORM	VIA	KTPA	@%OD
1 <u>Waste paper</u>	<u>3500/ton</u>	<u>local</u>	<u>--</u>	<u>By truck</u>	<u>From Karachi</u>	<u>3.500</u>	<u>90%</u>
2		<u>dealers</u>					
3							
4							
5							
6							
7 COMMENTS							

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
1	Fourdrinier	180	220	1948	Reconditioned in 1986
2					
COMMENTS <u>The mill has 1 rewinder, 1 sheeter and coating equipment.</u>					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF REQD)

8.3 NO. OF DIGESTERS --, SIZE --, PULPING CAPACITY 40 TPD

8.2 BLEACHING: CHEMISTRY --; TOWERS --; WASHERS --

8.3 OTHER COMMENTS The mill has 2 pulpers and 4 refiners (Conical)

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY SITE 0.125 mgd-clean & soft potable water

9.2 WATER TREATMENT Nil

9.3 EFFLUENT TREATMENT 1 Boiler, Clarifiers & aerators

9.4 STEAM GENERATED: AMOUNT 7 tons/hr; QUALITY

9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

Surge Oil For boiler 740 tons local dealer

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 Standby Generator having capacity 1 MW

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

<u>WAPDA</u>	<u>1.2</u>	<u>28,800</u>
--------------	------------	---------------

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP

BRIGHTNESS Not at present

PRICE RANGE Rs/ADT

TFA

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE

PROCESS

BRIGHTNESS Not at present

WOOD TYPE

Rs/TON

TFA AD PULP

COMMENTS The mill is essentially recycling waste paper and is not at present interested in the use or manufacture of wood pulp.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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FIRM NAME Orient Straw Board & Paper Mills Ltd. SERIAL NO: 13
 CHQ ADDRESS 49 Napier Road, Karachi-2. DATE 20-06-1990
 YEAR EST. 1968

1 CONTACT Abdul Ghaffar Abdullahi TITLE Managing Director
 MILL ADDRESS Near Telegraph Colony, Kotli, Distt: Dadu (Sindh)

CONTACT Mr. A.K. Abdurrahman TITLE Mill Manager

PAPER & BOARD PRODUCED		ANNUAL PRODUCTION, KTONS					CAPACITY
GRADE	WEIGHTS	1986	1987	1988	1989	TPD	
1 Paper Board	250 g/m ²	3.800	3.900	4.078	4.108	12	
2							
3							
4							
OTHER							
TOTAL		3.800	3.900	4.078	4.108		
COMMENTS	<u>The mill production is at full capacity</u>						

PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED		ANNUAL CONSUMPTION, K-TONS				
TYPE/ GRADE	-----SOURCE-----	1986	1987	1988	1989	1990
	LOCALE VENDOR					
Wheat Straw	Own mill	Nil	Nil	4.852	4.891	
Bogasse	Own mill	2.900	3.000	3.100	3.200	
Waste paper	Own mill	3.800	3.900	4.100	4.150	
TOTAL		6.700	6.900	12.052	12.241	
COMMENTS						

PULP PRODUCTION & CAPACITY		PRODUCTION, K-TONS				
TYPE/ GRADE	PROCESS & CAPACITY	1986	1987	1988	1989	1990
	TYPE BRT TPD					
Wheat Straw	25	Nil	Nil	4.852	4.891	
Bogasse		2.900	3.000	3.100	3.200	
Waste paper		3.800	3.900	4.100	4.150	
TOTAL		6.700	6.900	12.052	12.241	
COMMENTS						

FIBER SUPPLY - ALL TYPES & SOURCES		-----SOURCE-----		TRANSPORT	CONSUMPT.
TYPE/SPECIES	COST	LOCALE	VENDOR	FORM VIA	KTPA @%OD
	Rs/UNIT				
Wheat straw	500/ton	Farmers	--	By road/trucks	15.000 50%
Bogasse	450/ton	Sugar mill	--	" "	12.000 50%
Waste paper	350/ton	Local dealer	--	" "	6.000 90%
COMMENTS					

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Cylinder Mould 25		160	1968	
NO. 2					
COMMENTS <u>Imported from Japan</u>					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 2, SIZE 10m, PULPING CAPACITY 20 TPD
8.2 BLEACHING: CHEMISTRY Chl; TOWERS 3; WASHERS 3
8.3 OTHER COMMENTS _____

9. UTILITIES & POWER INFORMATION

9.1 WATER SOURCE, VOLUME & QUALITY From Canal 0.400mgd-clean & soft.

9.2 WATER TREATMENT Nil

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 2 Ton /hr; QUALITY Superheated

9.5 FUELS:	USE	AMT/YEAR	SOURCE	COMMENTS
Furnace Oil	For boiler	230 tons	local dealer	
TOTAL				

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1 _____

UNIT 2 Nil

UNIT 3 _____

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
WAPDA 1.00 12000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP _____

BRIGHTNESS Not at this stage

PRICE RANGE Rs/ADT _____

TFA _____

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE _____

PROCESS _____

BRIGHTNESS _____

WOOD TYPE No

Rs/TON _____

TFA AD PULP _____

COMMENTS _____

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

SERIAL NO: 14
DATE 21-06-1990
YEAR EST. 1969

1. FIRM NAME Sindh Paper Mills (Pvt) Ltd.
2. CHQ ADDRESS 3rd Floor, Dawood Centre,
Mahvi Tamizuddin Khan Road, Karachi.

2.1 CONTACT Mr. Akbar Khan TITLE General Manager
3. MILL ADDRESS P.O Shafiqabad, Distt: Thatt (Sindh)

3.1 CONTACT Mirza Bashir Beg TITLE Mill Manager

4. PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS				CAPACITY TPD
		1986	1987	1988	1989	
4.1 <u>Fluting Corrugated</u>	<u>110</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>0.600</u>	<u>25</u>
4.2 <u>(blending &)</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.3 <u>Packing paper</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.4 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.4 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.5 OTHER	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
4.6 TOTAL	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0.600</u>	<u>---</u>
4.7 COMMENTS	<u>Production has started from November, 1989 and production figures for November and December, 1989 are 600 tons.</u>					

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
5.1 <u>Unbleached</u>	<u>Own mill</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0.800</u>	<u>---</u>
5.2 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
5.3 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
5.4 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
5.5 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
5.6 TOTAL	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0.800</u>	<u>---</u>
5.7 COMMENTS	<u>Consumption during November and December, 1989 only.</u>						

6. PULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & CAPACITY		PRODUCTION, K-TONS				
	TYPE	BRT TPD	1986	1987	1988	1989	1990
6.1 <u>Unbleached</u>	<u>---</u>	<u>30</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0.800</u>	<u>---</u>
6.2 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.3 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.4 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.5 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
6.6 TOTAL	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0.800</u>	<u>---</u>
6.7 COMMENTS	<u>Production during November and December, 1989 only.</u>						

7. FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD	
		LOCALE	VENDOR			
7.1 <u>Wheat straw</u>	<u>700/ton</u>	<u>Farmers</u>	<u>---</u>	<u>Trucks road</u>	<u>1.600</u>	<u>50%</u>
7.2 <u>Bajasse</u>	<u>350/ton</u>	<u>Sugar mill</u>	<u>---</u>	<u>" "</u>	<u>1.600</u>	<u>50%</u>
7.3 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.4 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.5 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.6 <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
7.7 COMMENTS	<u>---</u>					

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
NO. 1	Belmar	40 r.p.m.	90	1970	
NO. 2					
COMMENTS					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS 3, SIZE 24m³, PULPING CAPACITY 10 TPD
 8.2 BLEACHING: CHEMISTRY ---; TOWERS ---; WASHERS ---
 8.3 OTHER COMMENTS One digester is presently working, the other two are under repairs.

9. UTILITIES & POWER INFORMATION From KWSB-0.300 mgd-potable water

9.1 WATER SOURCE, VOLUME & QUALITY

9.2 WATER TREATMENT The water is potable and does not need treatment

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 5 tons/hr; QUALITY Superheated

9.5 FUELS: USE AMT/YEAR SOURCE COMMENTS

Paraffin Oil For steam generation 1440 ton local dealers

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 NIL

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED

WAPDA 0.5 10,000

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

	Unbleached	Bleached
GRADE OF PULP		
BRIGHTNESS		<u>80°GE</u>
PRICE RANGE Rs/ADT	<u>1100</u>	<u>1500</u>
TFA	<u>5</u>	<u>5</u>

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE	<u>NO</u>
PROCESS	
BRIGHTNESS	
WOOD TYPE	
Rs/TON	
TFA AD PULP	

COMMENTS The construction of the mill originally named as Allied Paper

Mills (Pvt) Limited was started in 1969 and became operational in 1970.

After production upto 1975 it remained closed for 14 years upto November,

1989.

The mill was originally designed to use raw materials-cotton linter (40%)

and wheat straw (60%) to produce writing & printing paper of 70-80 gm/m².

The reasons for its closure were financial difficulties mainly the liberal policy of import of paper on "Free List". The production cost of the writing and printing paper was higher than the cost of imported paper. The mill, therefore, remain closed after being in production for 5 years only. The mill has now been reactivated by its new owners.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

SERIAL NO: 15
 1. FIRM NAME Chilya Corrugated Board Mills Limited DATE 21-06-1990
 2. CHQ ADDRESS 8th Floor, Sheikh Sultan Trust YEAR EST. 1973
Building, 10-Beaumont Road, Karachi.
 2.1 CONTACT Fazal Hussain TITLE General Manager
 3. MILL ADDRESS Chilya, Distt: Thatt (Sindh)
 3.1 CONTACT Ferozuddin TITLE Mill Manager

4. PAPER & BOARD PRODUCED		-----ANNUAL PRODUCTION, KTONS----				CAPACITY
GRADE	WEIGHTS	1986	1987	1988	1989	TPD
4.1 Fluting Paper	100 to 180 g/m ²	4919	4655	3121	3921	20
4.2						
4.3						
4.4						
4.5 OTHER						
4.6 TOTAL		4.919	4.655	3.121	3.921	
4.7 COMMENTS	<u>Excessive loss of production due to off and on failure of electricity supplied by WAPDA.</u>					

5. PULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED		ANNUAL CONSUMPTION, K-TONS				
TYPE/ GRADE	-----SOURCE----- LOCALE VENDOR	1986	1987	1988	1989	1990
5.1 Bagasse	<u>Own mill</u>	1.000	0.960	0.640	0.850	
5.2 Waste paper	<u>Own mill</u>	4.000	3.840	2.560	3.400	
5.3						
5.4						
5.5						
5.6 TOTAL		5.000	4.800	3.200	4.250	
5.7 COMMENTS						

6. PULP PRODUCTION & CAPACITY		PRODUCTION, K-TONS				
TYPE/ GRADE	PROCESS & CAPACITY TYPE BRT TPD	1986	1987	1988	1989	1990
6.1 Bagasse	<u>Line Cooking</u> 25	1.000	0.960	0.640	0.850	
6.2 Waste paper	<u>Beating & agitating</u> 70	4.000	3.840	2.560	3.400	
6.3						
6.4						
6.5						
6.6 TOTAL		5.000	4.800	3.200	4.250	
6.7 COMMENTS						

7. FIBER SUPPLY - ALL TYPES & SOURCES		-----SOURCE-----		TRANSPORT	CONSUMPT.
TYPE/SPECIES	COST Rs/UNIT	LOCALE	VENDOR	FORM VIA	KTPA @%OD
7.1 Bagasse	<u>300/ton</u>	<u>Sugar mill</u>		<u>From Thatta</u>	<u>3.150 50%</u>
7.2				<u>by trucks</u>	
7.3 Waste paper	<u>3500/ton</u>	<u>local dealer</u>		<u>From Karachi</u>	<u>5.460 90%</u>
7.4				<u>by trucks</u>	
7.5					
7.6					
7.7 COMMENTS					

unsuitable as a raw material as the machinery installed was found unfit to handle rice straw. The price of imported fiber pulp suddenly shot up. In the feasibility report prepared in 1971, the parity ratio of 1 US\$ was Rs. 4.50. When the mill came into operation in 1973 the parity ratio was 1US\$ = Rs. 10.00. Therefore the wood fiber pulp was not imported. The raw materials were changed to wheat straw and bagasse. The mill being located in rice growing area the wheat straw had to be imported over a distance of about 150 to 200 Km or even more adding to the production costs. Finally the raw materials have been changed to bagasse and waste paper. Bagasse is transported from Thatta Sugar Mills located at a distance of 30 Km and waste paper from Karachi-a distance of 155 Km.

The production of paper was discontinued from the very beginning as the pulp did not have sufficient strength and now paper board is being manufactured.

The ownership has changed many hands. It is a public Limited Company and its shares are available at the Karachi Stock Exchange. Lastly the major shares have been purchased by Mahmood Ali Mekhri on January 24, 1990.

At present the bottleneck is the interrupted supply of electricity. The new owners propose to put up their own power plant as a stand-by arrangement but at a later stage.

The owners also intend to use wood fiber pulp and bring the mill to full production but that too at a later stage, when they have worked the mill for about a year or so with the present machinery and raw materials.

WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

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SERIAL NO: 16

FIRM NAME Master Papers (Pvt) Limited DATE 19-06-1990

CHQ ADDRESS Plot 35, Sector 12-B, Industrial Area, North Karachi, Karachi (Sindh) YEAR EST. 1984

CONTACT Aziz Mohammed TITLE Chief Executive/Managing

MILL ADDRESS Same as CHQ address Director

CONTACT Mr. Suhail Ahmed TITLE Director

PAPER & BOARD PRODUCED

GRADE	WEIGHTS g/m ²	ANNUAL PRODUCTION, KTONS					CAPACITY TPD
		1986	1987	1988	1989	1990 (till date)	
Duplex Board	400	1.200	--	--	--	--	5
Fluting Paper	100 to 120	--	--	0.360	1.800	0.600	--
OTHER							
TOTAL		1.200	--	0.360	1.800	0.600	--

COMMENTS Duplex board machine damaged due to fire in 1987 and is out of order since then. The mill remained closed during 1987. From 1988 it has started producing fluting paper.

FULP CONSUMPTION - ALL TYPES AND SOURCES, * = MANUFACTURED

TYPE/ GRADE	SOURCE		ANNUAL CONSUMPTION, K-TONS				
	LOCALE	VENDOR	1986	1987	1988	1989	1990
Waste paper	Own mill		1.320	--	0.432	2.160	0.720
TOTAL			1.320	--	0.432	2.160	0.720

FULP PRODUCTION & CAPACITY

TYPE/ GRADE	PROCESS & TYPE	CAPACITY		PRODUCTION, K-TONS				
		BRT	TPD	1986	1987	1988	1989	1990
Waste Paper	Beating & originating	70	5	1.320	--	0.432	2.160	0.720
TOTAL				1.320	--	0.432	2.160	0.720

FIBER SUPPLY - ALL TYPES & SOURCES

TYPE/SPECIES	COST Rs/UNIT	SOURCE		TRANSPORT FORM VIA	CONSUMPT. KTPA @%OD
		LOCALE	VENDOR		
Waste Paper	3000/ton	Local dealer	--	By trucks within Karachi	3.000 90%
COMMENTS					

WVA1-W0052201.F

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WOOD CONSUMPTION SURVEY QUESTIONNAIRE
PULP & PAPER INDUSTRY

8. PROCESS INFORMATION AS APPROPRIATE

8.1 PAPER MACHINES:

NO.	TYPE	SPEED, m/m	TRIM, cm	YR INST.	COMMENTS
1	Fourdrinier	60	172 cm	1988	
2					
COMMENTS					

8.2 DESCRIBE THE PULP PRODUCTION PROCESS (SEPARATE SHEET IF RQD)

8.3 NO. OF DIGESTERS --, SIZE --, PULPING CAPACITY -- TPD

8.2 BLEACHING: CHEMISTRY --; TOWERS --; WASHERS --

8.3 OTHER COMMENTS Beaters-2, Agitators-2, Pulping Capacity-2.5 TPD, Calendering machine-1, cutting machine-1.

9. UTILITIES & POWER INFORMATION

Under ground water (wells)-0.300 mg/l

9.1 WATER SOURCE, VOLUME & QUALITY clean and soft.

9.2 WATER TREATMENT Not required

9.3 EFFLUENT TREATMENT Nil

9.4 STEAM GENERATED: AMOUNT 2 mt / hr; QUALITY --

9.5 FUELS: USE AMT/YEAR 1728 mt SOURCE local dealer COMMENTS

Paraffin Oil

TOTAL

9.6 ELECTRICITY GENERATED: TYPE, MW,

UNIT 1

UNIT 2 Nil

UNIT 3

9.7 ELECTRICITY PURCHASED: SOURCE, MW DEMAND, kWhr/DAY CONSUMED
KESC 0.15 3200

WOULD YOU BE INTERESTED IN USING MORE WOOD PULP?

GRADE OF PULP

BRIGHTNESS

PRICE RANGE Rs/ADT

TPA

NO

WOULD YOU BE INTERESTED IN PRODUCING PULP FROM WOOD?

PULP TYPE

PROCESS

BRIGHTNESS

WOOD TYPE

Rs/TON

TPA AD PULP

NO

COMMENTS This is one of the small mills with capacity of 1500

tons/years. The mill is neither interested in using wood pulp nor in producing pulp from wood.

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Annexure IX

PRODUCTION OF PAPER & PAPER BOARD IN PAKISTANESTIMATES BY FEDERAL BUREAU OF STATISTICS (Quantity in tons)

Y E A R	No. of reporting factories	P A P E R				B O A R D	TOTAL PAPER AND BOARD
		Writing	Printing	Packing and others	Total		
1970-71	-	7,657	5,833	2,708	16,203	25,055	41,258
1971-72	-	10,345	9,001	5,702	25,048	20,196	45,244
1972-73	-	16,942	6,331	4,005	27,278	20,255	47,436
1973-74	-	16,570	4,809	3,656	25,048	21,469	46,504
1974-75	6	15,384	3,967	3,749	23,100	27,167	50,267
1975-76	6	16,145	2,394	2,692	21,231	21,045	42,276
1976-77	6	15,686	3,191	4,064	22,941	21,426	44,367
1977-78	6	17,843	2,849	1,568	22,260	22,419	44,679
1978-79	6	22,565	3,029	4,024	29,618	49,714	79,332
1979-80	12	20,359	3,686	9,856	33,901	51,333	85,284
1980-81	13	24,667	3,559	12,120	40,346	59,245	99,591
1981-82	15	28,577	4,545	11,867	44,989	59,730	104,719
1982-83	15	29,216	3,759	14,579	47,554	58,763	106,317
1983-84	15	26,100	4,125	13,427	43,652	61,576	105,228
1984-85	15	30,154	3,612	16,317	50,083	69,073	119,156
1985-86	15	21,431	3,857	17,504	42,792	69,536	112,328
1986-87	14	6,585	3,579	18,957	29,121	68,905	98,026
1987-88	13	10,097	2,372	19,191	31,660	70,027	101,687
1988-89	13	14,465	1,277	21,977	37,719	65,428	103,187

SOURCE:- Figures for the years 1970-71 to 1973-74 adopted from "Ten Years of Statistics in Pakistan" and for the years 1974-75 to 1989-90 from "Production of Manufacturing Items". In 1980, 1985 & 1990. Federal Bureau of Statistics, Statistics Division, Government of Pakistan, Karachi.

STATEMENT OF PRODUCTION FOR THE YEAR 1986-87, 1987-88 1988-89
(PAKISTAN PAPER & BOARD MAKERS ASSOCIATION)

Quantity in tons

S.NO.	Name of mill	Installed capacity (per year)	1986-87						
			White Duplex/ paper	P A B B R			Total board	Total paper & board	White Duplex/ paper
				Writ- ing and print- ing paper	Wrapp- ing and pack- ing paper	Total paper			
1	2	3	4	5	6	7	8	10	11
1.	Adamjee	21300	12592	6322	-	18914	-	18914	12263
2.	Ali	7500	-	5022	-	5022	-	5022	-
3.	Al-Quresh	4000	-	-	670	670	-	670	-
4.	Bahawalpur	6000	483	-	1674	2172	-	2172	-
5.	Century	30000	-	-	-	-	-	-	-
6.	Chilya	6000	-	-	4172	4172	-	4172	-
7.	City	7000	-	-	-	-	-	-	-
8.	Dadabhoj	1500	-	-	3243	3243	-	3243	-
9.	Firdous	900	-	-	-	-	621	621	-
10.	Flying	20000	-	11798	-	11798	-	11798	-
11.	Ghazi	10200	-	4140	-	4140	-	4140	-
12.	Hasani	6000	-	-	-	-	865	865	-
13.	Mandiali	4000	-	-	5413	5413	-	5413	-
14.	Orient	3000	-	-	-	-	3331	3331	-
15.	Packages	42000	21277	3033	5959	20314	9241	29575	21975
16.	Pak Paper- Board	4500	-	-	-	-	5388	5388	-
17.	Premier	10500	-	3472	-	3472	-	3472	-
18.	PFC	30000	-	-	-	-	-	-	-
19.	Safina	4500	-	-	-	-	5165	5165	12033
20.	Sargak	12000	2013	-	1070	12973	-	12973	-
21.	Sayli	1800	-	-	1886	1886	-	1886	-
22.	Security	1500	-	1243	-	1243	-	1243	-
23.	Shalimar	12000	-	-	-	-	5189	5189	-
24.	Star	3000	-	-	2757	2757	-	2757	-
25.	Sultan	900	-	-	-	-	839	839	-
	Total	252,100	40405	41095	10644	114144	31389	145533	45171

Source: Pakistan Pulp, Paper & Board Makers Association Karachi.

S.NO.	Name of mill	1987-88					1988-89						
		PAPER			Total board	Total paper & board	PAPER					Total board	Total paper & board
		Writ- ing and print- ing paper 12	Wrapp- ing and Pack- ing paper 13	Total paper 14			White duplex/ paper 17	Writ- ing and print- ing paper 18	Wrapp- ing and pack- ing paper 19	Total paper 20			
1	2			14	15	16	17	18	19	20	21	22	
1.	Adamjee	4425	-	16688	-	16688	3063	3926	-	11989	-	11989	
2.	Ali	4732	-	4732	-	4732	-	4135	-	4135	-	4135	
3.	Al-Quresh	-	1409	1409	-	1409	-	-	3538	3538	-	3538	
4.	Bahawalpur	-	504	504	-	504	-	-	1526	1526	-	1526	
5.	Century	-	-	-	-	-	-	-	-	-	342	342	
6.	Chilya	-	3224	3224	-	3224	-	-	4170	4170	-	4170	
7.	City	-	386	386	-	386	-	-	2388	2388	-	2388	
8.	Dadabhoj	-	3367	3367	-	3367	-	-	3679	3679	-	3679	
9.	Firdous	-	-	-	397	397	-	-	-	-	620	620	
10.	Flying	17244	-	17244	-	17244	-	19528	-	19528	-	19528	
11.	Ghazi	3304	-	3304	-	3304	-	3314	-	3314	-	3314	
12.	Gasani	-	-	-	453	453	-	-	-	-	867	867	
13.	Mandisli	-	4637	4637	-	4637	-	-	4593	4593	-	4593	
14.	Orient	-	-	-	4081	4081	-	-	-	-	4118	4118	
15.	Packages	5300	3152	80357	9474	40311	23336	6550	3034	32970	9570	42540	
16.	Pak Paper- Board	-	-	-	5724	5724	-	-	-	-	2661	2661	
17.	Premier	3719	195	3914	-	3914	-	3363	123	3386	-	3386	
18.	RPC	10082	-	10082	-	10082	-	7606	-	7606	-	7606	
19.	SAC	-	-	-	4535	4535	-	-	-	-	4014	4014	
20.	Sadria	-	601	11634	102	1176	11106	-	261	11367	1125	12492	
21.	Sargak	-	3297	3297	-	3297	-	-	4442	4442	-	4442	
22.	Sayid	1175	-	1175	-	1175	-	1302	-	1302	-	1302	
23.	Security	-	-	-	5311	5311	-	-	-	-	7294	7294	
24.	Shalimar	-	2755	2755	-	2755	-	-	2936	2936	-	2936	
25.	Star	-	-	-	753	753	-	-	-	-	719	719	
26.	Sultan	-	-	-	-	-	-	-	-	-	-	-	
	Total	5511	24227	121709	21395	156104	42305	35204	30740	120469	311	944	

ANNEXURE XI

I M P O R T S - P A P E R & B O A R D **Quantity in tons-value in million rupees**

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE								
(I)	<u>NEWSPRINT.</u>										
1.	News print	40,434	276.572	23,362	241.241	51,817	292.662	44,548	239.395	52,689	625.775
(II)	<u>Printing & writing paper</u>										
2.	Art paper coated	2,731	33.724	4,239	53.317	4,736	62.915	5,481	85.909	5,755	112.183
3.	Art paper uncoated	329,207	3,461	94	1.081	217	2.485	228	3.061	240	4.002
4.	Drawing paper uncoated	2	0.095	11	0.073	4	0.187	8	0.347	4	0.193
5.	Duplicate paper in sheets uncoated	285	5.274	3	0.095	-----	-----	65	0.582	32	0.442
6.	Duplicate paper cut to size	-----	-----	3	0.046	46	1.024	60	0.765	24	0.735
7.	Poster paper	5,858	53.577	3,126	28.434	6,020	55.922	7,085	77.770	7,344	92.735
8.	Printing paper uncoated	18,762	197.042	23,436	259.725	21,710	260.307	18,716	270.411	18,560	300.242
9.	Hand made paper	114	0.522	72	0.550	35	0.225	35	0.284	-----	-----
10.	Paper ruled or squared	-----	-----	1,719	0.469	170	0.172	-----	-----	-----	-----
11.	Bond paper uncoated	351	4.534	105	1.205	264	3.300	185	3.236	1	0.057
12.	Writing paper uncoated NS	5,906	58.935	8,448	90.132	9,364	102.900	15,057	171.677	11,068	161.864
13.	Paper coated, impregnated	3,845	64.555	3,170	59.565	4,530	81.705	8,253	166.216	3,177	96.832
14.	Bond paper coated	219	3.607	344	5.741	78	1.529	393	6.686	247	4.666
15.	Printing, writing paper coated	27,542	169.397	3,593	46.307	784	12.565	965	10.972	422	7.271
16.	Paper tracing	26	0.572	7	0.178	20	0.625	27	0.699	25	0.673
17.	Tracing paper impregnated	12	0.163	10	0.328	51	1.149	96	2.321	22	0.605
18.	Adhesive paper	192	6.450	193	7.419	541	23.694	401	18.247	867	38.431
19.	Cards for correspondence	1	0.017	-----	-----	1	0.002	-----	-----	1	0.004
20.	Writing paper	-----	-----	1	95	2	66	1	049	3	096
21.	Paper stationary for correspondence	24	0.783	41	0.396	48	1.862	12	0.697	23	2.774
22.	Memorandum books	-----	0.001	3	0.030	-----	-----	-----	-----	3	0.007
23.	Registers	-----	-----	-----	-----	-----	-----	-----	-----	1	0.007
24.	Writing pads	-----	-----	2	0.902	1	0.002	1	0.002	1	0.005
25.	Corpcsite paper	-----	-----	-----	-----	-----	-----	4	0.053	39	0.359
26.	Stationary paper/paper board	82	6.129	40	3.057	61	4.403	172	4.637	95	6.519

I M P O R T S - P A P E R & B O A R D (CONTINUED) Quantity in tons-value in million rupees

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE								
27.	Coated or adhesive paper	-----	-----	190	4.826	346	8.628	199	6.626	425	13.746
28.	Paper for calculating machine	-----	-----	19	0.031	9	0.053	3	0.520	2	0.081
29.	Type-writing paper cut to size	-----	-----	1	0.043	2	0.066	5	0.020	-----	-----
30.	Wax paper	-----	-----	-----	-----	361	15.967	619	28.998	875	38.944
		66,281	609,240	46,885	563,450	49,341	656,750	58,071	261,085	49,256	690,483
(III) WRAPPING & PACKING PAPER:											
31.	Kraft Liner in Rolls or Sheets	3,537	23.458	4,934	30.162	5,511	30.156	3,570	28.904	3,818	31.797
32.	Sack Kraft Paper	9,227	64.277	16,282	129.095	9,897	84.837	16,720	160.692	14,689	157.018
33.	Kraft Paper Board	597	4.255	808	6.099	1,858	15.948	824	8.514	209	3.040
34.	Kraft Paper in Roll Sheet MS	23,781	108.808	14,327	127.168	22,178	104.483	57,052	152.191	96,624	127.245
35.	Semi-Chemical Fluting Paper	20	00.254	24	0.138	8	0.031	1	0.099	26	0.451
36.	Sulphite Wrapping	445	5.117	218	2.999	585	8.207	1,932	23.372	1,491	26.544
37.	Kraft Paper Creped/Crinkled	52	0.821	17	0.471	19	0.423	3	0.048	177	0.684
38.	Paper Creped other than Kraft	32	0.507	826	0.821	11	0.505	15	0.732	9	00.993
39.	Other Creped or Crinkled Paper	7	0.241	7	0.299	25	0.794	14	0.546	27	1.489
40.	Paper Corrugated, Embossed etc.	8	0.141	48	1.059	24	0.486	1	0.036	38	0.986
41.	Bags of Paper	197	2.426	146	2.025	156	2.165	285	4.196	209	4.292
42.	Packing Container Paper etc.	97	1.226	42	0.596	14	0.394	51	1.154	72	1.261
		36,850	211,531	37,679	300,932	40,286	148,429	80,438	380,684	117,589	485,800

I M P O R T S - P A P E R & B O A R D (C O N T I N U E D) Quantity in tons-value in million rupees

1984-85 1985-86 1986-87 1987-88 1988-89

Quantity Value Quantity Value Quantity Value Quantity Value Quantity Value

IV. SPECIAL PAPER

43. Paper of bank note	490	38.235	383	37.747	787	71.400	678	57.059	526	52.205
44. Chromo paper	4	0.055	1	0.001	-----	-----	68	0.740	46	0.461
45. Glassing	124	1.792	112	1.484	128	1.966	90	1.427	189	3.169
46. Paper glazed transparent	51	0.652	21	0.219	18	0.322	5	0.125	121	3.169
47. Paper grease proof	45	0.682	54	0.966	118	1.800	157	2.756	114	2.089
48. Paper/paper board grease-proof NS	402	4.793	200	3.584	259	4.217	451	5.592	158	3.239
49. Paper parchment	11	0.235	33	0.639	73	1.818	73	1.803	88	2.382
50. Blotting paper	3	0.024	8	0.639	34	0.687	18	0.223	-----	-----
51. Paper asphalted	41	0.375	1	0.048	4	0.059	7	0.022	-----	-----
52. Paper tarred	-----	-----	9	0.088	1	0.256	-----	-----	26	0.309
53. Paper bituminized	6	0.062	134	1.429	-----	-----	-----	-----	-----	-----
54. Carbon paper in bulk	9	0.376	9	0.252	9	0.255	29	0.630	1	0.058
55. Filter block etc of paper pulp	41	1.089	66	2.453	117	4.050	20	0.688	17	0.605
56. Wall paper & lincrusta etc	21	0.621	38	1.118	130	3.676	265	6.163	321	8.713
57. Cigarette paper in bulk	53	1.338	47	0.571	31	0.818	110	3.131	87	2.616
58. Stencils	-----	-----	44	1.337	45	1.883	72	2.529	42	2.460
59. Transfer paper	-----	-----	2	0.584	7	0.524	13	1.063	5	0.386
60. Copying paper cut to size	-----	-----	11	0.515	6	0.445	3	0.206	33	1.004
61. Cigarette paper in booklet	-----	-----	18	0.388	1	0.049	76	2.405	50	1.958
62. Cigarette paper cut to size	-----	-----	1,563	36.595	1,777	4.419	2,153	56.186	1,441	41.426
63. Carbon paper china	-----	-----	5	0.255	9	0.488	12	0.273	1	0.051
64. Toilet paper in rolls or sheet	-----	-----	1,347	23.094	1,664	30.401	1,028	20.701	883	23.588
65. Hand kerchief, towels of paper	-----	-----	82	2.210	188	4.496	657	18.465	320	7.965
66. Sanitary towels etc of paper	-----	-----	5	0.128	5	0.130	8	0.070	2	98
67. Graph paper	-----	-----	-----	-----	7	0.038	12	0.185	33	0.618
68. Toffee paper	-----	-----	-----	-----	-----	-----	115	4.298	32	1.325
69. Blotting pads	-----	-----	-----	-----	-----	-----	8	0.001	1	0.006
70. Paper filters	-----	-----	-----	-----	266	10.733	556	28.413	687	48.407

Total 1,301 50.329 4,193 115.623 5,684 184.707 6,684 215.354 5,224 208.497

Total all paper 146,800 1,147.672 128,129 1,221.246 147,128 1,482.543 184,741 1,896.518 124,758 2,210.555

I M P O R T S - P A P E R & B O A R D (C O N T I N U E D) Quantity in tons-value in million rupees

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE								
(V). PAPER BOARD											
71.	Paper board	1,607	13.201	2,159	17,823	71	0.541	125	1.292	190	1.804
72.	Straw board	4	0.045	64	0.589	46	0.463	63	0.745	43	0.415
73.	Paste board	-----	-----	6	0.075	6	0.086	-----	-----	-----	-----
74.	Card board	589	5.091	598	5.259	140	1.906	282	3.553	337	5.731
75.	Art board	-----	-----	-----	-----	-----	-----	1,068	27.517	2,000	59.613
76.	Fibre building board compressed	5,841	16.879	5,861	12.609	12,000	24.910	2,081	7.359	1,411	11.111
77.	Fibre building board noncompressed	752	2.505	30	0.412	179	1.415	105	0.581	17	0.133
78.	Paper board corrugated embossed	6	0.082	-----	-----	26	0.600	30	0.502	11	0.167
79.	Paper board coated, impregnated	17,965	184.181	22,074	192.919	15,169	163.975	6,576	88.153	3,169	54.617
80.	Paper board, asphalted, crested etc	27	0.536	21	0.776	10	0.196	4	0.155	1	0.166
81.	Composite paper board (NS)	39	0.642	62	0.658	2	0.017	-----	-----	17	0.305
82.	Paper & paper board	7,766	63.625	12,783	82.292	13,832	376.592	2,559	4.7616	2,688	57.767
83.	Cards for punched cards machine	-----	-----	11	0.301	18	0.372	4	0.128	21	0.107
84.	Board duplex	-----	-----	-----	-----	54,348	119.483	24,765	117.885	15,450	231.304
		14,400	137.394	43,849	313.713	95,847	390.356	38,582	196.180	16,021	423.049
(VI). PAPER & PAPER BOARD ARTICLES											
85.	Boxes of paper & paper board	24	0.199	36	0.361	190	2.488	1,260	14.566	1,147	16.109
86.	Filing containers paper etc	5	0.023	-----	-----	-----	-----	9	0.096	-----	-----
87.	Envelops	5	0.018	1	0.003	1	0.034	1	0.074	2	0.009
88.	Albums	1	0.019	2	0.066	4	0.155	5	0.263	4	0.215
89.	Diaries	4	0.050	10	0.098	6	64	6	0.093	4	0.188
90.	File covers	1	0.012	1	0.002	3	0.003	3	0.043	1	0.006
91.	Books of paper paperboard	-----	-----	261	4.671	144	3.535	49	1.477	165	4.106
92.	Cups of paper or paper board	-----	-----	37	0.474	39	0.418	-----	-----	19	1.009
93.	Trays, dishes etc of paper etc	-----	-----	5	0.391	28	3.138	6	0.050	19	1.009
94.	Articles of paper paperboard NS	-----	-----	592	-----	9,912	85	3,374	116	7,397	116
	Total	30	0.321	945	15.978	500	13.290	1,455	24.165	1,484	34.251
	Grand total paper & board	14,430	237.715	44,794	329.691	96,347	403.655	40,037	420.445	17,505	457.300

Note:- NS stands for non-specified

IMPORTS- PAPER & BOARD Quantity in tons-value in million rupees.

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE								
<u>SUMMARY</u>											
I.	Newsprint	41,434	176.072	37,361	241.241	51,317	322.662	44,548	422.145	51,489	321.775
II.	Printing & writing paper	69,281	669.242	48,811	563.450	49,341	636.750	53,071	611.265	44,256	511.483
III.	Wrapping & packing paper	33,859	211.511	37,679	310.932	40,286	218.429	50,438	322.664	37,583	455.830
IV.	Special paper	1,391	50.323	4,193	115.623	5,684	154.702	6,684	215.354	5,224	225.497
	Total all paper	146,965	1,147.672	128,044	1,231.246	147,028	1,432.545	159,741	1,576.528	138,552	1,524.585
V.	Paper board	34,400	207.354	43,849	313.713	35,247	390.356	38,582	398.380	36,021	423.640
VI.	Paper & paper board articles	49	0.211	945	15.978	500	13.209	1,455	24.065	1,484	24.251
	Grand total paper & board	181,306	1,365.387	172,913	1,560.937	243,475	1,856.108	259,773	2,314.963	262,163	2,028.455

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I M P O R T S- P U L P & W A S T E P A P E R Quantity in tons-value in million rupees

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE								
1.	Newspaper old	1,901	4.279	1,750	3.333	348	0.720	419	1.100	1,410	3.975
2.	Paper and paperboard waste	8,091	13.476	12,143	25.164	11,644	24.810	15,264	38.450	14,788	45.250
3.	Mechanical wood pulp	2,047	11.540	9,895	49.749	12,129	84.840	9,725	77.407	3,358	32.808
4.	Chem wood pulp dissolve grades	4,620	31.224	2,488	14.264	799	6.663	3,292	32.387	6,846	57.010
5.	Chem wood pulp unbleached	2,181	10.907	2,182	10.698	2,346	11.911	7,555	50.743	4,831	25.135
6.	Chem wood pulp bleached	12,942	75.266	7,313	40.675	15,160	74.553	12,604	68.814	22,732	180.695
7.	Chem wood pulp sulphite unbleached	-----	-----	407	2.014	925	3.588	1,077	9.483	48	0.419
8.	Chem wood pulp sulphite	1,076	5.986	124	0.390	3,514	20.108	3,740	35.148	2,246	17.486
9.	Semi chemical wood pulp	-----	-----	998	5.961	1,268	7.048	1,379	8.719	56	0.282
10.	Pulp other than wood pulp	177	1.061	886	3.614	4,570	24.988	2,975	16.921	1,509	10.806
Total		33,036	158.739	38,186	155.862	52,703	259.230	58,030	339.172	57,824	373.896

SUMMARY

I.	Waste paper (S.Nos.1 & 2)	9,992	22.755	13,893	28.497	11,992	25.530	15,683	39.550	16,198	49.255
II.	Wood pulp (S.Nos.3 to 9)	22,867	134.923	23,407	123.751	36,141	208.711	39,372	282.701	40,117	313.835
III.	Pulp other than wood pulp (S.No 10)	177	1.061	886	3.614	4,570	24.988	2,975	16.921	1,509	10.806
Total		33,036	158.739	38,186	155.862	52,703	259.229	58,030	339.172	57,824	373.896

SOURCE: Foreign Trade Statistics of Pakistan, Import Years: 1984, 1985, 1986, 1987, 1988, & 1989, Federal Bureau of Statistics, Statistics Division, Government of Pakistan, Karachi.

E X P O R T S- P A P E R & P A P E R B O A R D

Quantity in tons-value in million rupees.

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
(I). PAPER											
1.	Sack kraft paper	973	8.403	877	5.757	-----	-----	-----	-----	-----	-----
2.	Paper/paper board grease-proof NS	1	0.003	-----	-----	-----	-----	-----	-----	-----	-----
3.	Bags of paper	784	10.608	102	2.586	654	9.384	-----	-----	18	0.228
4.	Filings containers paper etc	224	2.012	22	0.324	16	0.176	06	0.001	-----	-----
5.	Packing containers paper etc	96	1.441	1,306	19.374	1,898	26.716	413	6.627	81	1.934
6.	Envelops	2	0.045	2	0.015	06	0.025	3	0.112	2	0.113
7.	Paper stationary/for- correspondance NS	02	0.003	02	0.004	9	0.198	3	0.107	1	0.029
8.	Diaries	01	0.035	008	0.004	2	0.150	-----	-----	-----	-----
9.	Stationary paper, paperboard NS	32	0.907	6	0.316	5	0.364	52	1.526	25	1.127
10.	Carbon paper	-----	-----	07	0.030	07	0.037	08	0.052	-----	-----
11.	Cops of paper or paperboard	04	0.030	-----	-----	-----	-----	-----	-----	-----	-----
12.	Cards for correspondance	-----	-----	-----	-----	4	0.834	01	6	-----	-----
13.	Transfer paper	-----	-----	-----	-----	-----	-----	-----	-----	07	0.039
14.	Copying paper cut to size	-----	-----	-----	-----	-----	-----	-----	-----	2	0.992
		2,119	2.349	2,332	2.841	2,601	37.884	486	14.425	136	3.502
(II). PAPER BOARD											
15.	Paper board	1	0.033	-----	-----	-----	-----	-----	-----	-----	-----
16.	File covers	02	0.027	8	36	10	0.019	-----	-----	2	0.011
17.	Fibre building board-compressed	-----	-----	-----	-----	-----	-----	841	4.269	77	0.682
		3	006	8	36	10	0.019	841	4.269	79	0.693
(III). ARTICLES MADE OF PAPER & BOARD											
18.	Boxes of paper & paperboard	84	1.836	8	0.102	20	0.236	74	0.660	3	0.080
19.	Articles of paper, paperboard NS	3	0.217	2	0.038	4	0.177	05	0.603	25	0.899
20.	Albums	-----	-----	-----	-----	-----	-----	07	0.083	1	0.098
		87	0.053	10	0.14	24	0.413	86	0.746	29	1.077

E X P O R T S- PAPER & BOARD (CONTINUED) Quantity in tons-value in million rupees

S.NO.	COMMODITY	1984-85		1985-86		1986-87		1987-88		1988-89	
		QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
<u>SUMMARY</u>											
(I).	PAPER	2,199	2.349	2,332	2.241	2,601	37.884	486	14.425	136	3.562
(II).	PAPER BOARD	3	0.06	8	36	10	0.019	341	4.269	79	0.693
(III).	ARTICLES MADE OF PAPER & BOARD	87	2.053	10	014	24	0.413	86	0.746	29	1.077
GRAND TOTAL		2,209	25.603	2,350	6.455	2,635	38.316	1,413	1.944	244	5.332

Note:- N.S stands for Non-specified

SOURCE: Foreign Trade Statistics of Pakistan: Exports Years: 1984, 1985, 1986, 1987, 1988, & 1989: Federal Bureau of Statistics, Statistics Division, Government of Pakistan, Karachi.