

Japan International Cooperation Agency
Ministry of Economy, The Republic of Lithuania

**REPORT
FOR
THE FOLLOW-UP STUDY ON
THE DEVELOPMENT OF PULP AND PAPER INDUSTRY
IN
THE REPUBLIC OF LITHUANIA**

MARCH 2002

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PREFACE

In response to a request from the Government of the Republic of Lithuania, the Government of Japan decided to conduct the Master Plan Study on the Development of Pulp and Paper Industry in the Republic of Lithuania and the study was implemented by the Japan International Cooperation Agency (JICA) from February 2000 to December 2000.

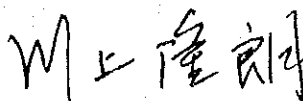
This study was implemented as a Follow-up Study of the Master Plan Study, focusing on the revision of the practical strategy proposed in the above Study on how to favorably attract foreign investors to Lithuanian project and support on implementation of preliminary Environmental Impact Assessment for the planned pulp and paper plants. JICA sent a study team, led by Mr. Masaaki Shiraishi, Special Advisor of UNICO International Corporation, and organized by members of UNICO International Corporation and Ilexum Consulting to Lithuania from February 2002 to March 2002.

The team held discussion with the officials concerned of the Government of Lithuania, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to pulp and paper industry development in Lithuania and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Lithuania for their close cooperation throughout the study.

March 2002



Takao Kawakami

President

Japan International Cooperation Agency

March 28, 2002

Mr. Takao Kawakami
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmission

We are pleased to submit a final report on the "Follow-up Study on The Development of Pulp and Paper Industry in the Republic of Lithuania". The report consists of two parts: Part-I Review of Current Conditions and Recommendation and Part-II Proposal on Investment Promotion Work

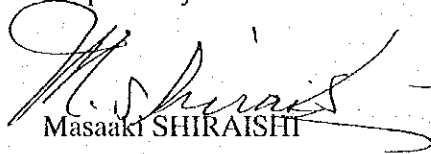
Based on The Study on The Development of Pulp and Paper Industry in The Republic of Lithuania that was conducted by JICA from February 2000 through October 2000 and its attached document "INVESTMENT GUIDE", for the past one and half years, the Lithuanian government paid its effort to invite foreign investors for realization of a large scale pulp mill project that is proven its commercial viability by said study. Nevertheless, due to depression in pulp and paper business caused by recent worldwide economic recession, no prominent investor appeared as of today. The requirement for the study in this time, therefore, is to advise the Lithuanian government how to promote earlier realization of the envisaged pulp mill project in the Lithuania.

We, the JICA study team performed reviewing the current investment climate in Lithuania comparing with the previous study time, while, in order to attractively improve the conditions for investment to this pulp mill project, favorable preparations of government's institutional supports, proposal on improvement of supporting policies including tax incentives, preparation of government's promoting organization, methodology for positive investment promotion, firm preparation of governmental guarantee conditions including long term supply guarantee of pulpwood and partial sovereign guarantee for financing support, etc. were studied and discussed with the government officials, and recommended in the final report.

We, the JICA study team do hope that the Lithuanian government with all of its directly related officials should continue their consolidated efforts to realize the project with unyielding spirits looking for unforeseen chances in the future.

Finally, we would like to express our gratitude to JICA, the Ministry of Foreign Affairs and the Japanese Embassy in Lithuania for their guidance and support. At the same time, we would like to acknowledge cooperation and support we have obtained from the Ministry of Economy, the Ministry of Environment, the Ministry of Finance, the Ministry of Transportation, Lithuanian Development Agency, Municipalities of candidate project sites.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'M. Shirashi', is written over the printed name 'Masaaki SHIRAISHI'.

Team Leader,

Follow-up Study on The Development of
Pulp and Paper Industry in
The Republic of Lithuania

INTRODUCTION

One and half years have passed since when JICA study team have conducted a feasibility study on a Pulp Mill Project in Lithuania. Whilst, Lithuanian Government have engaged in the work to invite foreign investors aiming realization of this Pulp Mill Project in the Lithuania by private investment. However, no positive response is received from any country at the moment.

JICA's study in this time is conducted to advise Lithuanian Government how to promote earlier realization of the Project, under the circumstances of world-wide recession where, due to stagnant market, the most of pulp and paper companies are suffered from poor business, and thus refrain from large investment but just watching timing to move-out.

Practical strategy in subject is, therefore, how to favorably attract foreign private investors to Lithuanian Project, under the circumstances where number of similar investment plans in competition are standing by for their unforeseeable chance.

Basic strategy to attain the objective is to broadly advertise and appeal advantages of the Project and general investment climate to potential investors. In this context, we believe that improvements in institutional set-up, legal preparation, favorable incentives and Government's supports are the most practical measures to attain earlier realization of the Project, though they are likely very ordinary measures.

In this report, various recommendations for promotion of the Project are raised in different aspects. And, we do hope that the Lithuanian Government, referring such recommendations as materials, should concentrate its consolidated efforts for realization of this large scale Pulp Mill Project in Lithuania..

We, all member of the JICA study team express sincere thanks for all of Government staff who assisted us during our survey period in Lithuania.

March, 2002
JICA Study Team Leader
Masaaki SHIRAISHI

MEASUREMENT UNITS AND PREFIXES

The SI (International System of Units) is used as basic system for measurement units (base units and derived units) and for prefixes. Certain non SI-units are used because of their practical importance and common use. Non SI-units are shown in *italic*.

I. Measurement units

Symbol	Unit	Physical quantity	Note
<i>a</i>	<i>annum, year</i>	<i>time</i>	
A	ampere	electric current	
C	coulomb	electric quantity, electric charge	A s
⁰ C	degree Celcius	temperature (t)	$t(^{\circ}\text{C}) = T(\text{K}) - 273.15$
cd	candela	luminous intensity	
<i>d</i>	<i>day</i>	<i>time</i>	<i>24 h</i>
g	gram	mass	
<i>h</i>	<i>hour</i>	<i>time</i>	<i>3600 s</i>
ha	hectare	area	10 000 m ²
Hz	hertz	frequency	
J	joule	energy, quantity of heat	N m
K	kelvin	temperature (T)	thermodynamic temperature
kg	kilogram	mass	
<i>L</i>	<i>litre</i>	<i>volume</i>	<i>1 dm³</i>
m	metre	length	
m ²	square metre	area	
m ³	cubic metre	volume	See note 1)
mb	millibar	pressure	100 Pa, meteorology only
m/s	metre per second	speed, velocity	
m/s ²	metre per second squared	acceleration	
min	minute	time	60 s
mol	mole	amount of substance, chemical substance	
N	newton	force	
Pa	pascal	pressure	N/m ²
rad	radian	plane angle	
s	second	time	
<i>t</i>	<i>tonne</i>	<i>mass</i>	<i>1000 kg, used with prefixes kilo and mega only</i>
V	volt	electric potential	W/A
W	watt	power	J/s
Wh	watthour	energy	

Notes: 1) For wood raw material the following units are used

m^3 sob	Volume of round wood measured as solid volume over (on, with) bark (cubic metre solid volume over bark).
m^3 sub	Volume of round wood measured as solid volume under (without) bark (cubic metre solid volume under bark).
m^3 st	Volume of round wood measured in stack/pile including volume of intermediate air
m^3 l	Volume of chips measured in pile including volume of intermediate air (cubic metre loose volume)

2) If not specifically specified m^3 and m^3 s denotes m^3 sub.

2. Prefixes

Prefix	Name	Factor	
p	pico	10^{-12}	Not strictly SI-units but may be used in conjunction with the metre. Not strictly SI-units but may be used in conjunction with the metre.
n	nano	10^{-9}	
μ	micro	10^{-6}	
m	milli	10^{-3}	
c	centi	10^{-2}	
d	deci	10^{-1}	
k	kilo	10^3	
M	mega	10^6	
G	giga	10^9	
T	tera	10^{12}	
P	peta	10^{15}	
E	exa	10^{18}	

3. ABBREVIATIONS AND ACRONYMS

3-1. Common abbreviations

AAC	Annual allowable cut - maximum allowable wood harvest	
AD, ADt	Air dry, air dry ton(s).	For pulp 1 000 kg at 10% moisture content
AOX	Absorbable organic halogens, a standard method for analysis of halogenated organic compounds	
BAT	Best available technology	
BCTMP	Bleached CTMP	
BD, BDt	Bone dry, bone dry ton(s).	1 000 kg of bone dry e.g. wood or - more seldom - pulp
BHKP	Bleached hardwood kraft pulp	
BHSP	Bleached hardwood sulphite pulp	
BKP	Bleached kraft pulp	
bl	Bleached	
BOD _x	Biochemical oxygen demand in (x) days	

BSKP	Bleached softwood kraft pulp	
BSSP	Bleached softwood sulphite pulp	
C&F	Cost and freight	
Cf., cf.	Compare	
CIF	Cost, insurance and freight	
CMP	Chemi-mechanical pulp	
COD	Chemical oxygen demand	
CO ₂	Carbon dioxide	
CTMP	Chemi-thermomechanical pulp	
DIP	Deinked pulp	
DS, ds	Dry solids	
ECF	Elemental chlorine-free	Cl ₂ is not used
e.g.	for example	
EIA	Environmental Impact Assessment	
EMAS	Eco Management and Audit Scheme	
ESP	Electrostatic precipitator	
excl.	excluding, exclusive	
FB	Fibreboard	
FOB	Free on board	
GDP	Gross domestic product	
GNP	Gross national product	
HP	High pressure	
HW, hw	Hardwood	Deciduous tree species
i.e.	that is	
incl.	including, inclusive	
IPPC	Integrated pollution prevention and control directive	From EU
LP	Low pressure	
LPG	Liquefied petroleum gas	
MAI	Mean annual increment	
MDF	Medium density fibreboard	
MP	Medium pressure	
NBSKP	Northern bleached softwood kraft pulp	
Norscan	North American and Scandinavian market pulp suppliers	
NO _x	Nitrogen oxides (NO, NO ₂)	
ob	Over bark	
OD, ODt	Oven dry, oven dry ton(s)	
OSB	Oriented strand board - a type of reconstituted wood panel	
PB	Particle board	
pH	Measure of acidity/alkalinity of a solution	
PPI	Pulp & Paper International - trade magazine	
ppm	Parts per million	

RCF	Recycled fibre	
ROE	Return on equity	
ROI	Return on investment	
SCMP	Semi-chemical mechanical pulp	
SO ₂	Sulphur dioxide	
sob	Solid over bark	e.g. m ³ sob, solid volume of wood measured over (on) bark in cubic metre
spp	Species (plural)	
SS	Suspended solids	
sub	Solid under bark	e.g. m ³ sub, solid volume of wood measured under (without) bark in cubic metre
SW, sw	Softwood	Coniferous species
SWOT	Strengths, weaknesses, options, threats.	
TCF	Totally chlorine-free	
TEF	Totally effluent-free	
TMP	Thermo-mechanical pulp	
TOC	Total organic carbon	
TOX	Total organic halogens	
TSS	Total suspended solids	
ub	under bark	
UKP	Unbleached kraft pulp	
unbl	Unbleached	
VAT	Value added tax	

3-2. Organisations

CEPI	Confédération Européenne de l'industrie des pâtes, papiers et cartons.	
CIS	Commonwealth of Independent States (former USSR excl. Baltic countries)	
EBRD	European Bank for Reconstruction and Development	
EU	European Union	
FAO	Food and agriculture organisation of the United Nations	
FSC	Forest stewardship Council	
IFC	International Finance Corporation	
ISO	International Organisation for Standardisation	
ITTO	International Tropical Timber Organisation	
JICA	Japan International Co-operation Agency	
LDA	Lithuanian Development Agency	
MEC	Lithuanian Centre of Forest Economics	
NGO	Non-government organisation	
OECD	Organisation for economic co-operation and development	
WB	World Bank	
WWF	World wild fund for nature	

3-3. Currencies

DEM	German mark	
EEK	Estonian kronor	
EUR	European euro	
FIM	Finnish mark	
JPY	Japanese yen	
LAT	Latvian	
LTL	Lithuanian litas	
SEK	Swedish kronor	
USD	United States dollars	

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SUMMARY

Summary and Recommendations

Part 1 Review and Recommendations

This report reviews the results of the JICA Study in 2000, identifies major changes in the conditions for implementation of the pulp mill project, and make recommendations for actions to mitigate the impacts of such changes.

1.1 Investment Climate

(1) Overview

1) Macroeconomic outlook

- a. The country's GDP growth rate is 3.9% in 2000 and 5.7% (estimate) in 2001.
- b. The current account deficit has been declining steadily.
- c. Foreign direct investment in 2001 reached \$448 million, far above \$379 million in the previous year.

2) Country risk evaluation

Although the country's rating among the Baltic states has not changed, Lithuania receives positive ratings, especially Fitch's rating improved from BB+ to BBB-.

3) Foreign exchange policy

On February 1, 2002, the country shifted its foreign exchange control from the U.S. dollar-pegged to the Euro-pegged.

4) Foreign direct investment law

No major change has been made after 2000.

5) Taxation

In January 2002, the country's taxation system was drastically changed. Major changes related to the project are the corporate income tax which rate has been reduced from 24% to 15%, the dividend tax from 29% to 15%, and the profit remittance tax at zero.

6) Land acquisition

Land ownership by foreign corporations, including farmland, will soon be allowed to reflect the amendment of Article 47 of the constitution on March 7, 2002, in order to meet the EU membership requirements.

7) Incentives for FEZs

No major change has been made on incentives for FEZs, which were modified in 1995 and April 1996.

8) Strategic investor

Tax incentives for "strategic investment" projects, which are made outside the FEZ with the total amount exceeding 200 million litas, were terminated in September 2001. Now, there is no special incentive or privilege for investment projects outside the FEZ.

9) Investment information

There is the lack of information on laws and regulations affecting foreign investors, which has been translated to English, constituting a major obstacle to preliminary feasibility study and making the country unfavorable in competition with other countries to attract foreign investment.

(2) Recommendations

1) Special incentives and privileges for investment projects outside the FEZ

A law should be enacted to grant special incentives and privileges to investment projects that are located outside the FEZ and are approved by the government.

2) Strengthening of one-stop service functions

To maximize convenience of investors, LDA should be empowered to provide all administrative services by furnishing information on laws, regulations and procedures for foreign direct investment to LDA.

3) Publication of investment-related laws and regulations in English

Investment-related laws and regulations should be translated to English and should be published on the Web site of LDA for access by potential investors.

4) Formation of a master plan for development

A master plan for development should be formulated to clarify the relationship between the entire economic development plan and individual products.

5) Development of a public financing plan

Long-term funds should be introduced from international financial institutions in order to compensate for the shortage of investment by the private sector, together with equity participation by the government sector if necessary.

(3) Other comments

Foreign direct investment can make multi-faceted contributions to economic development of the host country, including introduction and transfer of management techniques, new technologies and know-how, and development of export markets. For this reason, the following recommendations are made to accelerate investment promotion.

- a. Establishment of clear and transparent rules for investment
- b. Emphasis on factors constituting the intangible investment climate, as well as tangible incentives
- c. Provision of attractive incentives that are comparable to those offered by competing countries

1.2 Market

(1) Paper and paperboard demand

The worldwide paper and paperboard demand in 2000 reached 324 million tons, recording an annual average rate of 3.5% since 1980. In 2001, demand plummeted to 216 million tons, an exceptional decline not observed during the past slumps due the Korean conflict, the oil crises, and the bursting of the economic bubbles.

According to Jaakko Pöyry Consulting's forecast, demand will grow again steadily in the foreseeable future, at an annual rate of 2.6% between 2000 and 2015, or 10 million tons annually.

Among the major regions, Asia will become the fastest growth market, while Western Europe will maintain slightly higher than average growth. Segment-wise, demand for printing and writing paper – the largest consumer of market pulp – will register the highest growth rate of 4.4%, followed by tissue paper and container board.

(2) Production and international trade of paper and paperboard

World paper and paperboard production totaled 325 million tons in 2000. The annual average growth rate between 1980 and 2000 is 3.3%. In particular, Asia, except Japan, recorded the fastest pace of 9% and is expected to hold 26% of the world production in 2015.

International trade of paper and paperboard has been growing at a faster pace of 5.4% annually and is now equivalent to 30% of world production. Regionally, mainland China is expected to face a significant supply shortage, while exports from North America and Western Europe will increase.

(3) Composition of paper products by type

Recently, use of waste paper for paper production has been rapidly growing due to its price advantage, expansion of applications and supply conditions, and the improvement of treatment technology. In 2015, it is expected to account for 46% (247 million tons) of paper and paperboard materials. Nevertheless, it will have little impact on market pulp demand because waste paper is usually used for newsprint paper and corrugated cardboard.

BHKP demand will expand at an annual 3.2% until 2015, when total demand will reach 75 million tons. Major species for BHKP materials will be eucalyptus in general, together with acacia in Asia and birch in the northern hemisphere.

On the other hand, BSKP demand will grow a much slower pace, one half that of BHKP demand (1.7%), and will reach 48 million tons in 2015.

Both BSKP and BHKP will be increasingly consumed for production of printing and writing paper, which will account for 63% and 62% of the major pulp products, respectively.

(4) Market pulp demand

Market pulp demand will grow much faster than total pulp demand, at an annual average rate of 2.7% up to 2015 or a net increase of 1.5 million tons per year. Of total, 400,000 tons can be met by upgrading existing mills, while remaining 1.1 million tons need to be supplied from new or additional capacities. This is translated to one or two new mill to be constructed each year over the next decade. BHKP and BSKP will be major products, while SP, UBKP and TMP will not likely become the mainstream in consideration of current slow growth.

Selection of a new market pulp mill site is chiefly governed by supply sources of wood raw materials. Current supply conditions indicate that major sources will shift from North America and Scandinavia to the southern hemisphere.

BSKP demand will grow at an annual 2.0%, equivalent to a net increase of 490,000 tons per year. The pace of demand growth will require addition of a large mill every other year. BHKP demand will grow faster at 4.3% or 1 million tons per year.

(5) Market pulp supply

North America is the largest supplier of market pulp (Canada surpasses the U.S.), followed by Western Europe and Latin America. In Asia, BHKP supply capacity grows rapidly but it is still below that in Latin America. Supply capacity in Nordic countries expanded steadily up to 2002, but it will decline thereafter due to an increase in integrated pulp and paper mills. In terms of availability of wood raw materials, France, Germany and the UK are potential public suppliers in Europe, in addition to the Baltic countries. Worldwide, there are 13 companies having market pulp supply capacity of over 1 million tons, led by IP of the U.S.

Transition to integrated pulp and paper mills has not progressed much due to various factors such as the need for integration of production facilities over borders. Tied supply of market pulp accounts for 43% of total sales (14.4 million tons), which will exceed 50% in 2015.

1.3 Wood Raw Material

(1) Overview

The previous study indicates that there would be sufficient supply of wood raw materials in the country for the proposed 500,000 t/a pulp mill. It should be noted that the estimation was made on a very conservative basis, not taking into account use of sawmill chips or imports from neighboring countries. The results of the follow-up study indicates that supply capacity has improved and the annual allowable cut can be increased to at least 8 Mm³ in consideration of the long-term potential sustainable cut.

(2) Forest resources

Forest resources in the country have been steadily growing, both in terms of forestland area and growing stock. The total forestland area as a percentage of national land area expanded from 30.3% in 1998 to 30.9% (2,010,300ha). Meanwhile, the growing stock increased by around 7% to 372 Mm³ (193 m³/ha) during the three-year period since 1998. About 37.5% of the growing stock is pine, 23.5 % spruce and 18.4 % birch.

(3) Ownership structure

Privatization and restitution of forestland still continues. As of January 2001, the forestland area under management of State Forest Enterprises and in national parks amounted to 1,002,000 ha, roughly one half the total forestland. Privately owned forestland reached 458,000 ha, or 23 % of the total, and it is expected to increase further as the restitution process continues. In forestland reserved for future restitution, only sanitary cuttings are allowed (carried out by State Forest Enterprises), thus accumulating substantial volumes of mature forests.

(4) Annual growth and cut

The current annual increment reached 11.7 Mm³ in 2000, a slight increase compared to 1998. On the other hand, the annual cut totaled 5.35 Mm³ in 2000 and fell below the allowable cut partly because felling operations are restricted in one fourth of the total forest as they are reserved for restitution and only sanitary cuttings are

permitted. According to the official statistics in 2000, cuttings in state forests accounted for 75% while those in private forests remained at 25%.

(5) Industrial production and wood consumption

The wood products industry in the country is led by the sawmill and board industries. Production of paperboard is also on the rise, while pulp production is suspended and waste paper is used as raw material. In addition, furniture and other wood processing industries have been steadily expanding. The sawmill industry is dominated by small facilities with annual production capacity of less than 100,000m³ (75,000m³/a at maximum), most of which are very small in capacity and use old equipment.

(6) International trade of wood raw material

In the past five years, round wood exports from Lithuania have been growing steadily. Sweden is the largest importer, followed by Poland and Russia (Kaliningrad). Exports to Finland registered a rapid growth last year. Major portions of round wood exports are used as pulpwood, whereas saw logs constitute only a small share.

(7) Future potential cut

According to the latest report, the annual allowable cut based on conservative estimation is 6.5 Mm³ between 2000 and 2010, 7.4Mm³ between 2011 and 2020, and 8.0 Mm³ between 2021 and 2030. In addition, some 0.5- 0.6 Mm³/a will be cut in Group II forests. Furthermore, the above estimates will likely increase further.

(8) Supply of pulp chips from sawmills

The previous study suggested the possibility to use chips generated from sawmills for the pulp mill, but it did not include them in the supply plan due to the lack of actual supply capacity among local sawmills. However, it is now recommended to include sawmill chips as raw material in consideration of possible modernization of sawmills in the near future, and it should be assumed that some 450 – 600 000 m³/a of pulp chips will be available as a result of increased production at modernized sawmills.

(9) Supply plan for wood raw material

A wood raw material supply plan for the proposed pulp mill, which takes into account the above assumptions, is shown in Figure 3-1. Note that the annual supply of 8 Mm³ (from Group II – IV forests) will remain at 70% of the current growing stock, while imports from Russia, Belarus and Latvia can be expected.

(10) Proposed action programme

To promote the pulp mill project, the following actions should be taken to clarify a positive outlook for pulpwood supply and demand:

- a. The future sustainable cut should be estimated on the basis of the latest, reliable forest inventory data.
- b. The future policy and strategy for forest ownership should be clarified.
- c. Accelerated modernization of the sawmill industry should be promoted to ensure stable supply of high quality pulp chips.
- d. An overall supply and demand balance for wood raw material should be developed as part of a forest industry development strategy, being identified for each species, quality (grade) and application.
- e. The commitment by the Lithuanian Government to the guaranteed supply of wood raw material from state forests should be further clarified in order to effectively appeal to foreign investors.

1.4 Mill Site Selection

(1) Procedure of site selection

In the previous study, 20 potential mill site areas throughout the country were evaluated according to the criteria and were reduced to the following three sites for final recommendation.

- Alytus North
- Jonava Rukla
- Vievis

No order of priority between the three proposed sites is established. While the previous study was adequate as preliminary feasibility study, the final selection process

should include detailed investigation such as geological conditions of the sites and surrounding areas.

(2) Results of the follow-up study

In this follow-up study, no conditions different from those identified in the previous survey have been found. Also, no additional site alternatives have been identified. On the other hand, Jonava and Vievis are considered to have some advantages over Alytus in terms of transportation infrastructure to be investment in the future. Final decision should be made by confirming and evaluating the critical factors. General comments on these factors are summarized below.

(3) Supply of wood raw material

Forest resources in the country are generally less dense in the west and relatively dense in the east. Among the three mill site areas, Alytus is located south to require longer transport by both road and railway, while it can be connected to the railway network in several directions. Transportation of pulp chips must compete with those supplied from Nordic companies

(4) Water supply and discharge of effluent water

New information in this item has not been obtained in this follow-up study. As discussed in the subsequent chapter, detailed examination will be made in the preliminary EIA this year.

(5) Energy supply and solid waste handling

A plan for integration of the pulp mill and the district heat supply system has been discussed. This item should be discussed as part of a new energy strategy that is necessitated by the issue of closure of Ignalina Nuclear Power Plant (INPP).

(6) Transport infrastructure

1) Road access to the mill site

Preliminary evaluation on alternative road connections to the mill site should be conducted and the government's commitment to road investment should be made.

2) **Road transport and traffic regulations**

The Lithuanian road traffic regulation sets the maximum gross vehicle weight (GVW) at 40 tonnes. While the GVW is comparable to many EU countries, it is lower than that in Nordic countries (60 tonnes) to create an economic disadvantage for road transport. It also improves competitiveness of railway transport over a longer haul. Among the three mill sites, Jonava and Vievis are better positioned due to shorter distances. However, use of rail transport requires transshipment on the way and adversely affects the overall economy.

3) **Railway network and rail branch line**

The Rail Baltica Project is under preparation to extend the West European standard railway to Poland, Lithuania and Latvia. The planned route starts with the Polish border and reaches Kaunas via Trakiszki and Marijampole in Lithuania, finally reaching Latvia. And it may pass Jonava after Kaunas.

It is recommended to study and evaluate the possibility to extend the proposed railway to the mill sites in terms of technology, environment, and expected benefits, and if so, the commitment of the government to construction of the new line is desirable. Clearly, direct access by the Western Europe gage rail is a great advantage for the pulp mill to allow direct transportation of pulp, wood, sub-materials and consumables between the site and various supply sources or markets in Western and Eastern Europe, including the cases when marine transport via Klaipeda has a cost advantage. It should be noted, however, that, while the plan is considered to be realistic for Jonava, and it may not favor Alytus. The extension of the rail line to the site area also calls for determination of an exact location of the site in consideration of investment requirements and technical and environmental restrictions peculiar to railway construction. It is therefore recommended that the Lithuanian government study technical feasibility of a preliminary railway construction plan to the mill sites, including cost estimation, and if feasible, announce commitment to investment in whole or part.

(7) Mill site characteristics

Site investigation should be conducted to collect and confirm the following information, which should then be made available to potential investors.

- a. Selection of feasible sites – a minimum area of 130 ha and preferably 150 ha or more with favorable topographic conditions to allow flexible facility layout and design
- b. Topographic and geological conditions, accessibility to infrastructure, social and environmental impacts
- c. Accessibility to main roads, railway connections, water and waste water pipelines, pumping stations
- d. Possible area for future expansion, including an integrated paper mill site and/or a sawmill site
- e. Detailed investigation on land ownership, legal requirements for land acquisition, potential problems, and necessary infrastructure
- f. Land required for outlying structures and facilities, and temporary work required during the mill construction period
- g. Confirmation on the history of soil contamination, legal disputes and other encumbrances

(8) Environmental issues

A preliminary proposal for a National Plan on Land Use has been prepared by the Ministry of Environment and has still to be approved by the parliament. The plan classifies national land in a diverse and comprehensive way and addresses social, cultural, environmental, economic and other issues. Also the map is constructed to reflect bio-diversity, urban and industrial areas, and major changes in environmental legislation that were made after the previous study. As environmental issues are critical to site selection, detailed discussion is made in Chapter 5.

(9) Others

The dialogue with environmental NGOs has been continued in a positive and constructive manner. They have not expressed specific opposition and will continue to watch the progress of the project and study its environmental impacts. Generally, there are some expectations that the pulp mill be located in an area remote from the capital and conducive to stimulation of regional development. The three

municipalities where the candidate mill sites are located have expressed their support for the project and availability of land. Local media has not raised any objection or criticism. Most people show positive reactions to the project and expect employment opportunities to be created by it.

(10) Proposed action programme

While further investigation will be required to select the most suitable site, it is recommended to collect and confirm basic information and data, including the following, until an investor is identified.

- a. Implementation of the PEA is most important and should assess environmental, social and economic impacts of the project.
- b. Use of surplus energy generated from the pulp mill, including supply of thermal energy and electricity to nearby communities, should be studied in relation to the closure of the nuclear power plant.
- c. A land use plan for an area around the mill site should be developed at appropriate levels in consideration of infrastructure, utilities, industrial district, residential area, and land ownership.
- d. Costs and benefits of the railway connection, especially the Rail Baltica Project, for the pulp mill and physical distribution in the area should be assessed.
- e. Geological information on the mill sites and surrounding areas should be collected, where available.
- f. The progress of the project should be informed to local residents, NGOs and other organizations and groups that are interested in the project and collect information, especially negative responses. Information should be disseminated through mass media, hearings and similar channels.

1.5 Environmental Aspects

(1) Technology and environmental loads

It is assumed that the pulp mill adopts BAT (Best Available Technique) for effective pollution control. At the same time, the PEA will be conducted to assess environmental loads that will be generated from the mill.

(2) Legislation

The environmental law in Lithuania has been modified in several points since 2000, but they will not affect the results of the previous study, excepting "Protected Areas." Major points of change are summarized below.

a. Environmental impact assessment

Environmental impact assessment is required to be conducted pursuant to the EIA law enacted in April 2000 and according to the procedures set forth in the five ministerial orders. The law and orders strictly follow the applicable EU standards. A pulp mill project is subject to compulsory implementation of the EIA. Manual for Environmental Impact Assessment, which follows the EU standards, has been prepared and is made available for implementation of the EIA.

b. Water quality

New regulations on "Environmental requirements for wastewater management" and "Procedures of qualification of surface waters and their quality standards," which comply with the EU standards, were enacted in 2001. They slightly differ from the old regulations but will not likely affect the project.

c. Air quality

The air pollution control standards have been changed to conform to the EU standards, including SO₂, NO_x, particle, lead, and benzene. The degree of influence on the project should be assessed by the EIA.

d. Solid waste

The existing Law on Waste Management of 1998 is now under amendment. A new "Law on Management of Packaging and Packaging Waste" was passed in 2001. The Ministerial Order on "General Requirements on Waste Incineration" of 1999 will be changed in 2002. New Ministerial Orders "Rules for the Construction, Operation, Closure and After-care of Landfills" and "Rules on Management of Spent Batteries and Accumulators" have been adopted. The regional waste management system has been implemented in

Alytus, is under implementation in Vilnius, and is in the application process for Jonava (2004 – 2005).

e. Noise

A new regulation on “Noise reduction and control from industrial enterprises” will come into force in January 2003.

f. Protected areas

The Amendment Law on the Protected Areas of the Republic of Lithuania will be adopted in December 2001. While the new law does not raise any new obstacles to the pulp mill, but Jonava is subject to restriction under the Nature Frame regulation and Alytus and Vievis require the laying of pipeline in regional parks. These issues should be addressed and confirmed in the EIA.

g. Taxes on pollution and natural resources

The Amended Law on Environmental Pollution Charges was passed in January 2002, setting forth minor changes in taxation rates and taxable items. There is no change that affect the pulp mill.

(3) Recommendations for Project Promotion

1) Environmental impact assessment

A. Preliminary EIA implementation procedures

The Ministry of Economy and the Ministry of Environment have decided to perform a preliminary EIA for the project and an independent consulting firm, BKG, has been appointed. As the preliminary EIA is not legally defined, however, the following framework was established and confirmed through discussions among the JICA study team and other related parties.

- The preliminary EIA is officially referred to as the PEA (Preliminary Environment Assessment).
- The PEA will be conducted according to the procedures for the formal EIA, but will not necessarily follow them exactly as there is no real project or no investor.
- The content of the PEA will also follow the formal EIA, but the degree of accuracy on preliminary level is permitted.

- The TOR should be approved by the Ministry of Economy and the Ministry of Environment.
- The structure and scope of the PEA should be approved by competent authorities, i.e., the Ministry of Economy and the Ministry of Environment.
- Public participation should be incorporated into the PEA process, but the formal procedures should be completed by June 2002.

While the PEA is not a formal EIA, it should be performed in conformance to the applicable EU standards as far as possible.

B. TOR for the PEA

The Term of Reference for the PEA should be reviewed by the JICA study team.

C. Public participation

Public participation is compulsory in the formal EIA and the procedures are defined in the law. For the PEA, it was agreed to give consideration to an “appropriate level of public participation.” As the first step, a meeting with a leading environmental NGO, the Lithuanian Green Movement (LGM), was held under attendance with the JICA study team, representatives of the Ministry of Economy, the Ministry of Environment and BKG. The plan for the PEA was explained to LGM, and following discussion, it was agreed to continue communication and discussion in the future. Then, on March 23, a meeting was held with representatives of the concerned municipalities to provide the PEA information.

D. Content and purpose of the PEA

- The three mill sites should be compared from the environmental point of view, with possible ranking.
- The result of the PEA may indicate the need for exclusion of an unsuitable site from the final list, but two or more sites should preferably be retained as site selection should consider other factors.
- As the PEA gives a total environmental image of the project, it should cover a broad spectrum, albeit on a preliminary level, including forest, wood and product transport, and the social and economic environment.

2) **Special notes and recommendations for promotion of the project**

- Dissemination of adequate information to the public is the most important element of project promotion.
- It is important to specify a suitable or very suitable site from the environmental point of view.
- Constructive comments on the PEA and its results from the Ministry of Environment, local authorities, NGOs and other stakeholders, including positive views on the project, are essential in consensus building.
- The PEA should be used as an opportunity to identify potential problems in an early stage and develop *early solutions*.
- It should be realized that, while the use of BAT is important information to be disseminated to the public, it is mandatory for the pulp mill project, no matter where it takes place, and thus it cannot be used as an instrument for project promotion.

Part 2 Proposed Investment Promotion Initiatives

2.1 Responses to the invitation for investment

(1) Direct responses

Direct responses were received from 10 companies, most of which gave negative answers to the invitation. Major reasons are summarized as follows.

- a. Ongoing investment in expansion of an existing pulp mill
- b. Ongoing investment in construction of a new pulp mill
- c. Lack of interest in the proposed pulp mill project in Lithuania

On the other hand, there were several responses that included some positive comments, suggesting future prospects.

- a. We would like to study the proposal in the near future.
- b. We closely watch a paper mill project in the Baltic region.

Companies that responded to the invitation are classified by country as follows: 3 companies from Finland, 2 Sweden, 2 Japan, 1 Germany, 1 France, 1 the U.S. Nordic companies account for 50% of the total, and European companies 70%.

(2) Direct contact by Lithuanian embassies

Lithuanian embassies in the following 12 countries contacted pulp and paper companies based in each country for promotion of the project: Australia, France, the Netherlands, Germany, the U.K., Italy, the U.S., Canada, Sweden, Finland, Poland, and Japan. While no contact was made in most cases because the embassy was unable to find the target company for promotion, embassy staff visited various companies and explained the project. As seen in the direct responses, most of them did not show interest, but some indicated "ongoing projects" and commented "possibility of making partial involvement if a major investor appears."

2.2 Major Issues and Recommendations

(1) Problems and doubts

The first round of solicitation for the project failed to receive a response from any potential investor. It seems to be attributed to the following reasons.

a. **Market**

- The world market has a long-term growth potential and pulp projects will continue in the future.

b. **Pulp and paper industry**

- The world economic downturns discourage large investment.
- The ailing pulp and paper industry loses profitability and cannot afford to make capacity expansion.
- The sluggish pulp market discourages investment in pulp production.

c. **Lithuania's investment climate**

- The country is lowest in credit rating among the Baltic countries.
- The upgrading of the investment climate in broad areas is required with or without the project.

(2) Basic strategy for future investment promotion

Construction of a large pulp mill is a major undertaking even for world-class pulp and paper companies and must be carefully planned according to their long-term business strategy. Each company has its own investment strategy and may decide on investment once certain conditions are met. However, it is difficult to learn the company's investment strategy that belongs to top secret. Nevertheless, investment promotion we have initiated has certainly made the pulp project in Lithuania known to many companies. At this stage, therefore, we should realize that information provided by the Lithuanian government could be used by some companies as part of their strategic investment consideration. In particular, data and information on forest resources and logistics, and the government's policy and commitment to project support presumably serve as vital information for pulp manufacturers that examine the possibility of strategic investment. Thus we should continue our promotional activities by establishing and expanding appropriate channels for communication and promotion, while making efforts to improve the investment climate of the country as a whole.

(3) Organization to lead investment promotion activities

Investment promotion activities required for the project is divided into several stages, according to the progress of the project preparation process, and the major

challenge in the first stage is to identify a final investor. Activities required in this stage are summarized as follows:

- a. Information dissemination to potential investors;
- b. Improvement and upgrading of the investment climate and specific conditions
- c. Study on recent trends in individual companies through regular contact; and
- d. Monitoring of the industry trends.

Throughout the stages, government agencies and organizations related to investment promotion should work together to coordinate their efforts in key activities, including the gathering of information on company information, the provision of investment-related information, and intermediary service for potential investors to contact relevant organizations. In particular, continuous efforts should be made until a primary candidate emerges and the personnel in charge of investment promotion should attempt to spot prospective investors as early as possible through effective contact and communication. The investment promotion organization will be managed by one full-time personnel who should be supported by several persons representing related organizations. As investment promotion activities are mostly marketing in nature, they should be knowledgeable about commerce and business, rather than technology. The organization should be called a "project team." On the government side, LDA seems to be suitable as a leading agency because of human resources and experience in similar services. It is therefore recommended to establish an organization led by LDA.

To implement a broad range of activities with a small organization, cooperation of related government agencies and organizations is essential. To ensure such cooperation, the Task Force Committee should act as not only an organization to make important decisions, but also an organization to maintain and warrant the collaborative relationship between the project team and related government agencies.

(4) Action programme

The action programme consists of actions to be taken by the government in order to promote materialization of the project and activities to be initiated by the project team, which are summarized as follows.

- 1) **Government action to assure investment incentives with legislative backup**
Various incentives and privileges promised in the Investment Guide should be made to official commitment by law.
- 2) **Implementation of the preliminary EIA**
The PEA, which is under preparation, should be implemented according to the plan.
- 3) **Collection and provision of information relevant to investment decisions**
Information related to relevant policy, institution and system, incentives, support programs, and the results of the PEA, should be provided to potential investors.
- 4) **Promotion strategy**
Strategic target countries: North America, Scandinavia, and Western Europe (major pulp importers)
 - a. Search of prospective companies
To approach prospective companies recommended by industry insiders and analysts.
 - b. Promotion of an investment consortium
To provide information that would induce formation of a consortium and make initiatives to promote such formation, under the anticipation that the project may be implemented by a consortium of foreign companies.
 - c. Cooperation in formation of a financial consortium
The project will likely be financed by a consortium of financiers, including international financial institutions. At the same time, it is important to realize that security is a critical factor for project financing and the government should be ready to provide sovereign guarantee in some cases.
 - d. Long term guarantee for product off-taking
Product off-taking is the most important requirements for implementation of the pulp mill project. If product off-taking is guaranteed in the long term, other requirements can be relatively easily solvable. For instance, ASSOCARTA of Italy should be considered as one of the primary targets for product off-taking.

5) Long-term wood supply guarantee

Long-term guarantee for supply of wood raw materials from national forecasts is the most important bargaining asset for the government. Furthermore, it is desirable to increase the amount of supply guarantee and/or the percentage of softwood, which will make the offer more attractive.

6) Collection and dissemination of site information

Provision of adequate information of land acquisition, together with assistance, will become effective support for the investor who has to obtain large land for the pulp mill.

7) Updating of Investment Guide

Investment Guide (October 2000) should be updated.

8) Establishment of systematic government support

A prospective investor and its decision is often governed by quality of government service, and the government should attempt to provide courteous service that meets the investor's needs.

Part I

**Review of Current Conditions and
Recommendations**

Chapter 1 Investment Environment

Part I Review of Current Conditions and Recommendations

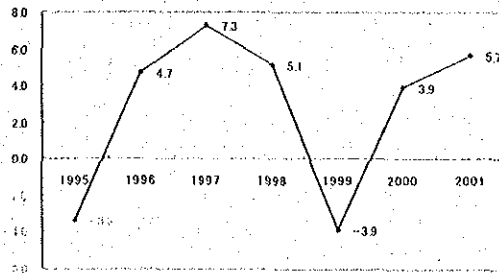
1. Investment Environment

1.1 Review of investment climate

(1) Macro-economic development

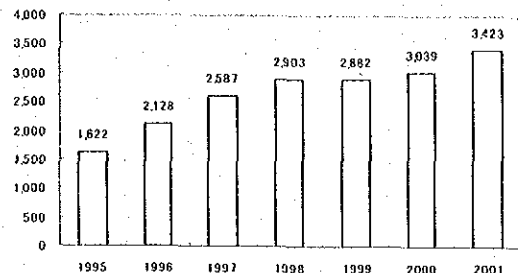
Several years after independence, Lithuanian economy experienced the first positive growth in 1996. However, it returned to be stagnant again after the Russian monetary crisis of '98. The economic growth decelerated to 5.1% in '98 from 7.3% of '97, and was further depressed to minus 3.9% growth in '99. (Figure 1-1)

FIGURE 1-1 GDP GROWTH 1995-2001 (%)



Source: Lithuanian Department of Statistics, Jan. 2002

FIGURE 1-2 GDP PER CAPITA 1995-2001 (US\$)



Source: Lithuanian Department of Statistics, Jan. 2002

However, some economic indicators appeared with improvements in the latter half of '99, and an economic recovery came into sight. Actually, the economy was strong enough to see the growth of 3.9% in 2000, and to grow with the rate of 5.7% in 2001, although it is still a tentative value. (Figure 1-1)

GDP per capita exceeded US\$3,400 in 2001. (Figure 1-2)

The current account deficit is likely tending to decrease. The deficit of current account balance, which recorded US\$1,194 million in '99, largely reduced to US\$675 million in 2000; and further to US\$297 million in the third quarter of 2001 compared to US\$421 million of the same period of the previous year.

Foreign direct investment, which had tended to decline after '99, picked up again in 2001. The aggregate amount of the FDI inflow in the 1-3 quarters of 2001 amounted to US\$448 million exceeding the US\$379 million inflow during the same period in the previous year. The accumulated amount of FDI inflow has increased to US\$2,603 million at the end of the third quarter of 2001.

From these macro economic data, it is obvious that Lithuania economy has come back to its orbit of economic growth in 2000. Moreover, a number of indicators show

that the US economy is now picking up and EU economy is expected to be back to the normal growth by the end of this year, thereby leading towards further FDI inflow into Lithuania.

(2) Country risk evaluation

Country risk of Lithuania as an investment market was analyzed in comparison with some other countries in the last JICA report. There has been a significant change, however, in the evaluation of the country risks of Baltic States.

“Fitch” recognises the progress Lithuania has made in the last year in the areas of structural reforms and fiscal policy, and has raised the credibility of Lithuania from BB+ to BBB, which is positive.

According to LDA, “Moody’s,” another rating agency, also has improved Lithuania’s rating perspective recently from “stable” to “positive” and announced that Lithuania has reduced tax shortfalls and government debt and is implementing a tax system reform and strengthening administrative skills. It’s a sign to investors that Lithuania has a stable and reliable financial system.

All these improvements in Lithuania’s rating will help Lithuania to increase FDI-inflow in the future.

The latest ratings of the government bonds of Baltic-3 are shown hereunder.

RATINGS OF GOVERNMENT BOND

	S&P		Moody's		Fitch IBCA	
	Last study	Latest	Last study	Latest	Last study	Latest
Lithuania	BBB	BBB	Ba1	Ba1	BB+	BBB
Latvia	BBB	BBB	Baa2	Baa2	BBB	BBB
Estonia	BBB+	A	Baa1	Baa1	BBB	A

In this connection, “S&P” has revised the ranking of Estonia upward from BBB+ to A and “Fitch” from BBB to A.

(3) Monetary policy

Since February 1, 2002, the national currency, litas, on the basis of the currency board model, has been pegged to the Euro.

From 1994 until the said day, the litas was pegged to the US Dollar at the exchange rate of 4.00 litas per dollar. Therefore, due to US dollar's soaring, the deterioration of the export competitiveness of Lithuania in the EU market, which is the main export market of the future, has been worried. However, with the national currency pegged to the Euro, the exchange risk could be evaded, and the disadvantage on the export price in the EU market could be minimised.

(4) Framework to control FDI

The goal of attracting foreign investment was set shortly after it regained its independence. The first law on foreign investment was adopted on 29 December 1990. In mid-1995 the *Seimas* (Parliament) enacted an updated version: "Law on Foreign Capital Investment" (13 June 1995, Law No.I-938). This law was replaced later by the "Law on Investment" (7 July 1999, No.VIII-1312), which is now in force.

No change has been found in the situation that there is little limitation in foreign investment. Almost no noticeable change in terms of the equal treatment of foreign capital, negative list of investment areas, dividend remittance, and foreign equity participation ratio has been found. The list of the type of businesses that are subject to licensing is also intact.

Although it has nothing to do with this Pulp Mill project, only major change in investment control is that: the Law "on Amendment of Article 13 of the Law on Enterprises" (16 March 2001) eliminated the provision of Article 13 of the Law, which had reserved the two types of commercial activities for the public sector: -

1) Manufacturing of alcohol products in which ethyl alcohol concentration exceeds 22 percent, 2) Printing banknotes and postal stamps as well as minting coins.

"SUPERVISORY COMMISSION FOR PREPARATION OF STRATEGIC PLAN ON IMPROVEMENT OF BUSINESS ENVIRONMENT" that was established at the end of 99 started to be active with nine Working Groups (taxation, customs, and construction, etc.). The committee's report of September 2001 tells us that some detailed problems have been tackled and some minor changes have been made.

(5) Taxes

The "Law on Tax Administration" (28 June 1995, No. I-974) and special tax laws regulate tax issues. Major reforms of tax rates have been made in this year and still under way. The corporate income tax rate was considerably reduced from 24% to 15%

in January 2002. Moreover, the reduction of dividend tax to 15% from 29% is scheduled in January 2003.

The current primary types of taxes and their sizes are reviewed as follows: -

TAXES	RATES (%)
Profit taxes for legal persons (Corporate income tax) ⁽¹⁾	15
Capital gains	24
Dividends (Withholding Tax) ⁽²⁾	29 (15) ⁽²⁾
Interest (Withholding Tax)	15
Royalties from licenses, trademarks and business names (Withholding Tax)	10
Payments for marketing research, consultancy, and mediation services (Withholding Tax)	15
VAT (exporting 0%)	18
Excise tax ⁽³⁾	1-100
Social insurance ⁽⁴⁾	34

(1) The reduction of profit tax rate to 15% from 24% was enacted in Jan. 2002.

(2) The reduction of dividend tax to 15% from 29% is scheduled in Jan. 2003.

(3) On the basis of raw materials like wood and leather.

(4) Employers pay 28% for social insurance and 3% for health insurance, while the employees themselves pay 3% for social insurance.

Other major business taxes are: -

- Real estate tax (1% of the real estate taxable value)
- Land tax (1.5% the price of the land per year)
- Land lease tax for state land
- Road tax
- Taxes for state natural resources
- Oil and gas reserves tax
- Environmental pollution tax
- Consular tax
- Stamp duty
- Market-place tax
- Inheritance or gift tax
- State water fund; and
- Compulsory health insurance contributions

(6) Land acquisition

On March 7, the Lithuanian Parliament adopted an amendment to Article 47 of the Constitution, which will allow foreigners to purchase agricultural land. The amendment is a prerequisite for Lithuania's admission to the EU. For the constitutional amendment to take effect, it must be approved by the Parliament once again in three months' time.

Even after amending its constitution, however, it is reported that land sales to foreigners could still be limited. The limitations are likely built in the law the Parliament intends to issue along with the constitutional amendments.¹

(7) Tax Incentives within the FEZ

The privileged tax system that is applicable to the enterprises located within the FEZ is clearly specified in the "Law on the Fundamentals of Free Economic Zones" (28 June 1995, No.1-976). No change has been found with regard to the incentive structure provided for the FEZ enterprises. It is just the same as reported in the last study by JICA.

The Article 15 of the Law on the Fundamentals of FEZ (1995) provides major incentives for FEZ enterprises. For confirmation, the text of Article 15, quoted below, shall be referred to.

In addition to the incentives provided by the above-mentioned Law, according to the other relevant laws including the Law on Tax Administration (1995), FEZ enterprises are also exempt from: -

- Customs Duties
- Value Added Tax (VAT)
- Excise Tax
- Property Tax, and
- Road Tax

(Reference) Article 15. Taxes in the Zone

("Law on the Fundamentals of Free Economic Zones as Amended 2 April 1996)

1. The enterprises registered in the zone and their employees shall pay the following taxes and charges:
 - Tax on profits of legal persons;
 - Income tax of natural persons;
 - Land lease tax;
 - Pollution tax and tax on the use of natural resources;
 - State compulsory insurance contributions;
 - Stamp duty.
2. Enterprises registered and operating in the zone which are engaged in production activities shall pay land rent at a reduced rate of 50%.
3. A zone enterprise shall pay an 80% lower profit (income) tax for 5 years from the day of its registration, for the next 5 years the rate of the profit (income) tax payable by the enterprise shall be reduced by 50%.
4. If a foreign investor (investors) acquires at least 30% of the authorised (ownership) capital of an enterprise, which is registered and operating in the zone, and invests capital of foreign origin in

¹ "Lithuanian Business Review" 2002/3 (P.6)

- the amount of no less than 1 million USD, the enterprise shall be exempt from profit (income) tax for 5 years from the day of its registration. For the next 10 years the enterprise shall pay profit (income) tax at a reduced rate of 50%.
5. The share of enterprise's profit used for the acquisition of required fixed assets, for carrying out research and for the introduction of new technology as well as for investment in the zone shall not be included in the taxable profit.
 6. Dividends received by foreign investors in the free economic zone shall be exempt from taxation.
 7. Other tax privileges shall be applied in accordance with the laws of the Republic of Lithuania.

(8) "Strategic Investor" Scheme

Except for the legislation of tax incentives for FEZ companies, there is currently no special law establishing incentive measures that are to be applied to the foreign investment project regardless of its location, although tax incentives are continued to apply to foreign investments that were carried out during the period of 1993-97.²

It is an important issue that we could not find any particular legal provisions that refer to the promotional measures particularly for a foreign investment project situated outside the FEZ.

There could be such a project that can hardly be located in FEZ due to the nature of the project, yet deserves preferential treatment: – one of the good examples of such projects is this Pulp Mill project.

The previous study report of JICA referred to the scheme of "Strategic Investor" and it was likely the system to provide the projects outside FEZ with preferential treatment. The detailed contents were, however, not very clear. Therefore, it was thought necessary, in the study of this time, to clarify the details of "Strategic Investor" system including its qualification and privileged conditions to be provided.

Some specific incentive was once provided to "Strategic Investors" – investors who entered into agreements with the Government of Lithuania. Investments amounting to 200 million Litas (US\$50 million), if they meet certain other criteria, were qualified to enter into agreements with the Government.³

² General tax deductions applied to foreign investors in general were abolished on the 1st April 1997. (Page 18, "A Practical Guide for Investors" April 2001, LDA)

³ "Strategic Investor" scheme was based on the clause 5 of Article 13 of the "Law on Investment" (7 July 1999). Article 13.5 prescribes as follows: -

"5. The Government or the competent authority shall have the right to conclude investment contracts with **strategic investor**, establishing special investment and business conditions, provided that the investment amounts to not less than LTL 200 million and meets the criteria established by the Government of the Republic of Lithuania. The terms and conditions of taxation of business shall be established in such contracts according to the procedure laid down by the law of the Republic of Lithuania on Tax Administration."

Special taxation for a business established under such agreement was specified in the Article 5.1 of the Supplement to Law on Tax Administration (02 Aug. 2001, No.IX-481).⁴ But, we have come to know that this scheme has been suspended since September 1st 2001, and virtually is not in force any more.⁵

There have been four cases to which this system was actually applied: 3 mobile-telecommunication service companies and 1 banking corporation. Though the system was abolished, these four companies, which acquired the status of "strategic investors" before the system was abolished, are permitted to enjoy the special favour of the corporation tax until the time limit comes.

Eventually, preferential treatment system applicable to the enterprises outside FEZ is not available. On the other hand, tax incentive measures to be applied to the enterprise located inside FEZ is established by legislation.

This Pulp Mill project is supposed to locate outside FEZ. In this case, the Government is said to be always ready to negotiate with potential investors for special measures applicable to those who locate outside the Free Zone.

All the conditions and incentives are to be decided through negotiation between the government and the potential investor: - this is the government's stance. However, it does not make much difference for the investors. It implies that there is no information about privileges that is available straight away. What investment project is qualified for the special consideration of the government? It is not known. What the special promotional measures look like? We cannot foresee it. They cannot get any concrete information until they physically visit Lithuania. It could be waste of time and resources.

In such circumstances, it would not be possible for the investor to examine in advance the investment conditions that Lithuania offers in comparison with those of other countries. It is completely impossible to predict how investment in Lithuania would come out. Needless to mention, investors would rather step away from Lithuania under such situation. It would be natural that if other economic conditions were more or less same among the competing countries, then the investor would opt for a country that makes its advantageous offers very much clear and transparent.

⁴ Article 5.1 of the "*Supplement to the Law on Tax Administration*" (02 Aug. 2001, No.IX-481) describes as briefed hereunder: -

If the Government of Lithuania concludes an investment agreement with an investor who undertakes investment of at least 200 million Litas (US\$50 million) in a Lithuanian enterprise within 3 years after the execution of the agreement, the agreement may provide for no increase in direct taxes for 5 years from the moment the investment reaches 200 million Litas. For **strategic investors**, this term could be extended to 10 years at the discretion of the Government.

⁵ The Article 13.5 of the "*Law on Investment*" (7 July 1999), e.g. the provision of "strategic investor," is not deleted yet, and still remains there: being not *repealed*, but *suspended*.

(9) Availability of information and guidance

Information service is vital to attract foreign direct investments. A country where information is not easily available will tend to be kept at a distance by potential investors.

The Lithuanian Development Agency (LDA) was the right place where most important information was made available to the study team. It seemed to be the best organisation for businessmen to visit for necessary information. Still, however, we had some difficulty to collect complete information.

It is also important to have a "one-stop service" facility in order to attract foreign direct investments. So-called "one-stop shop" is expected to play the role of a "guide" to help investors proceed from the application of investment to the registration of a company. Such facility is not available in Lithuania at the moment.

The investors need to conduct an in-depth study on the legal environment in the target country. They naturally need to carefully look into legal texts of related laws and regulations. The English versions of some laws and regulations are unavailable.

1.2 Recommendations

(1) Promotional measures for the projects outside FEZ

As mentioned above, there should be an industrial project that cannot help locate outside FEZ, yet deserves being encouraged by the Government as this Pulp Mill project is going to be.

Any promotional measure is, however, not available for now to an industrial project that is located outside FEZ. The government may insist that it will give an overriding consideration to such a case. Even though, it still does not make sense for the investor as long as there are neither an established system nor a clearly expressed rule.

Under this situation, Lithuania cannot easily become the object of prior comparative study of potential investors excluding a case where Lithuania is the only place for investment for some reasons.

There are no clearly expressed incentive measures that are applicable to those who locate outside the Free Zone. It is strongly recommended, therefore, to provide clearly for such projects, along with the provisions for FEZ, in the Investment Law or in any other law.

The best way will be to establish a rule and show it clearly. One possible method is to establish a rule, thereby designating the entire factory site of a project as an FEZ

according to a certain criteria, and applying to the project the same promotional measures as those for FEZ enterprises.

(2) Reinforcement of one-stop service system

In addition to complete information service, the "one-stop shop" is expected to play the role of a "guide" to help investors proceed smoothly towards the establishment of a company.

A place where all the support for information and procedural documentation is available is the "one-stop shop." Of course, it will be very difficult to complete all the procedures only at one place. However, it is expected at least to receive and process the initial documents at every stage. If LDA were supposed to play the role of the one-stop shop, its organizational structure would better be reinforced.

The authorities that are involved in foreign investment would better be represented in the LDA. They are to look after the investors in respect of, e.g. foreign investment control, company establishment procedure, land acquisition and land leasing, tax and tax exemption, and environmental control, etc.

In case that is difficult, it might be better that every staff of LDA is specialised in one of these relevant issues, and be mandated to represent each authority to help investors.

The "Board of Investment" of East Asian countries is responsible not only for information service or promotional activities; but they are also responsible for planning of foreign investment policies in line with the national development plan, receiving investment applications from foreign investors, examining and screening the applications (in the Board meeting), issuing the approvals, and sometimes organizing individual foreign investment project. This could be the model of LDA.

(3) English version of laws and regulations

The investors need to conduct an in-depth study on the legal environment in the target country. They naturally need to carefully look into the legal texts of related laws and regulations.

The government is, therefore, expected to prepare the English versions of all the investment-related laws and regulations including their latest amendments; and to make them opened to the public on the homepage of LDA.

In addition, the followings are more crucial to attract foreign investments: -

(4) Development Master Plan

The Government is recommended to map out a development master plan or a basic vision of preferable industrial structure of the economy to guide investments in the private sector. Individual investment project should be induced from the sector-wise development plan based on a comprehensive master plan of development.

Single project plan that popped out from an occasional idea often lacks consistency with the entire structure of the economy and sector-wise development plans, and tends to result in inefficiency. Preferably, all individual investment plans should compose a consistent part of a national development plan. It is not meant, however, that this Pulp Mill project is not to be promoted; but it is meant that the project is to be executed taking into consideration the linkages and consistency with the total economic and industrial structure of the country.

(5) Official financing programme or equity participation

The World Bank, who always denied official intervention into the market, admitted that one of the causes of the "incredible" economic success of Japan and Asian NIEs, which they called "Asia's miracle," was the intervention by the government.

The official financing program in particular was effective to supplement the shortfall of private industrial capital, and eventually to accelerate the industrial development. When the market fails to supply enough funds for industrialization, it may happen to be better for the Government to intervene the financial market. That has been proven in past in Japan and Asia NIEs.

The transitional economies should utilize the long-term loan or grants from the international financing organizations as the source of the funds for official financing or investment to supplement the shortage of capital in the private sector. In the transitional economies, as in the developing economies, the intervention of the Government may sometimes be needed, particularly at the earlier stage of economic development.

That is why the equity participation by the Government is preferable in this Pulp Mill project that requires an investment of a huge amount of fund.

1.3 Some additional comments

Needless to say, Foreign Direct Investment (FDI) accelerates economic growth in the recipient countries, because it leads to capital formation, it brings intangible business resources such as new management techniques, new technology and know-

how; and it also brings access to new export markets. Countries with high levels of FDI inflow generally achieve high levels of economic growth.

To conclude this report, I'd like to mention just three issues that are required in order to promote FDI.

(1) Establish clear and transparent investment rules

The instability and opacity of investment-related legislation and hazardous regulations are often cited as problems unfavourable to attracting inflow of foreign investment.

What is required is the establishment of clear and transparent investment rules, which increase predictability for investors, thereby stimulating foreign investment.

(2) Intangible factors rather than promotional incentives

Unlike during the period of import-substitution type of industrialization, countries no longer choose their investors, but rather investors choose their countries to invest due to growing liberalization and globalization.

Surveys by JETRO have shown that companies do not always attach the highest priority to incentives, such as tax exemptions. Instead, they tend to place greater emphasis on a country's political and social stability as well as macro-economic stability, infrastructure, low production costs, and on intangible factors such as **the level of development of business legislation, foreign investment policies** that are transparent, the quality of human resources, and the accumulation of supporting industries (SMIs).

In order to stimulate FDI inflow, therefore, it is more important to develop its intangible features of economy.

(3) Yet, more favourable treatment

At this time of severe competition of attracting foreign investments, however, it is still true that if the other conditions were more or less same among the competing countries, the investors would finally choose a country that offers more favourable treatment including tax incentives.

Chapter 2 Market

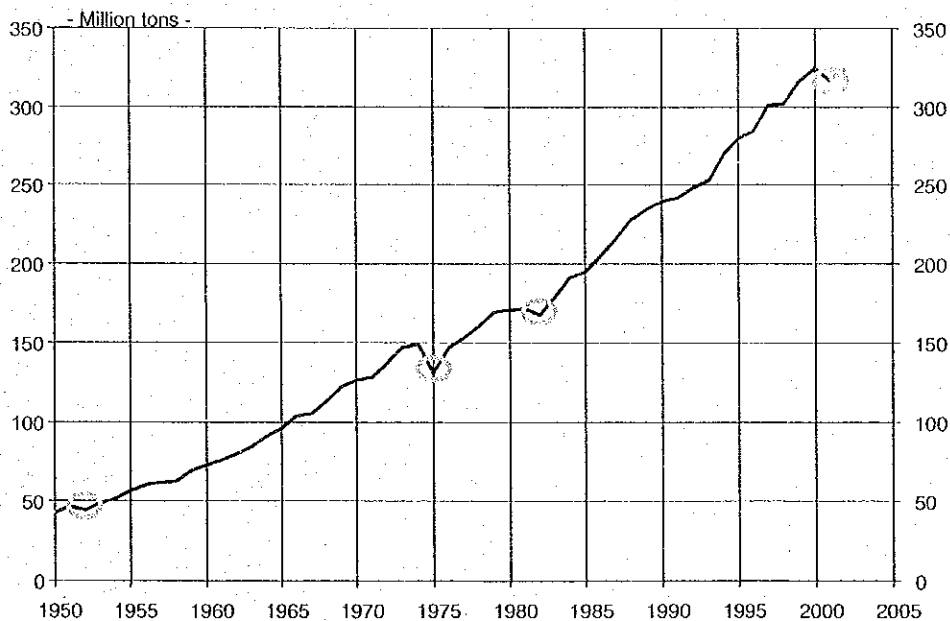
2. Market

2.1 Demand for Paper and Paperboard

High consumption growth since the beginning of the 1980s

- Since the beginning of the 1980s, the paper industry has experienced a period of remarkably strong consumption growth. World paper and paperboard consumption grew from 171 million tons in 1980 to 324 million tons in 2000. This corresponds to an average annual growth rate of 3.5% or 7.7 million tons. Last year however, production as well as consumption decreased to 216 million tons. Decreases are in fact very seldom and have happened during the last more than 50 years only three times before (Figure 2-1). Major market disturbances such as war, oil shocks and burst of financial bubbles strengthened by the events of September 11th can obviously reduce paper demand.

FIGURE 2-1 WORLD PAPER CONSUMPTION 1950-2001



Source: JICA Study Team

Many factors drive paper and paperboard consumption

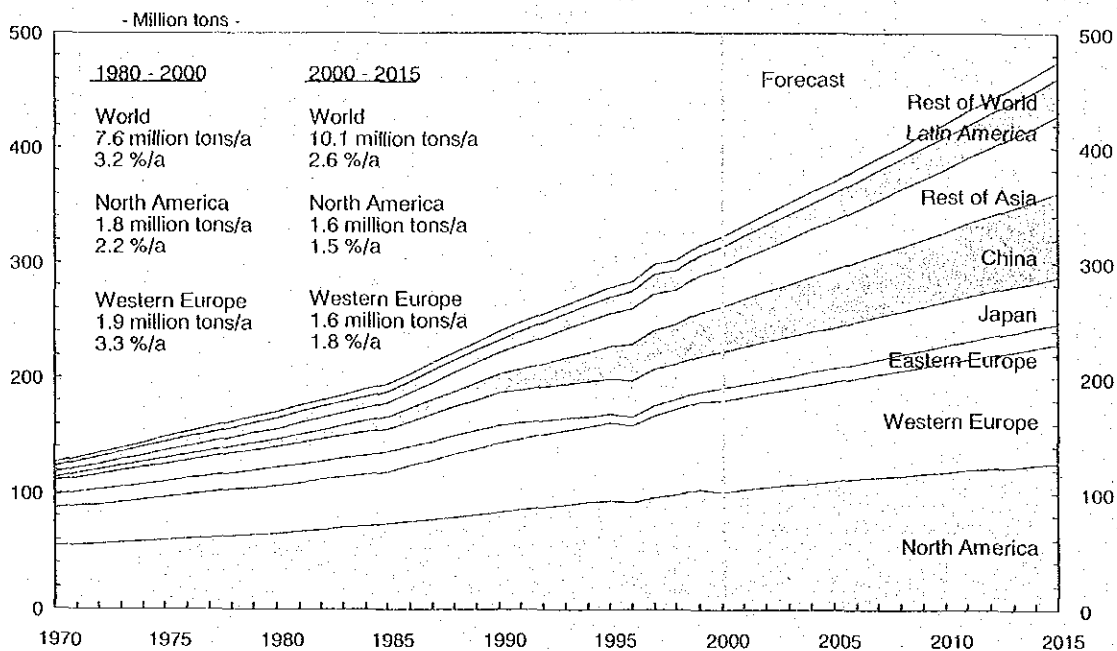
- The consumption of paper is driven by several quite different factors, such as:

- Economic factors, e.g. GDP level and growth rate
- Demographic factors, e.g. population, age distribution, number of households etc.
- Technology factors, e.g. competition from other materials, media and systems fulfilling the same or similar functions as paper and/or paperboard.

Paper and paperboard consumption will continue to grow by about 10 million tons per year

- Irrespective of the drop in demand last year, world paper and paperboard consumption will continue to grow and reach 475 million tons by 2015, according to JICA Study Team's forecast. Thus, the average annual growth in the period 2000-2015 is expected to be 2.6% or 10.1 million tons (Figure 2-2).

FIGURE 2-2 WORLD PAPER AND PAPERBOARD CONSUMPTION BY REGION 1970-2015



Source: JICA Study Team

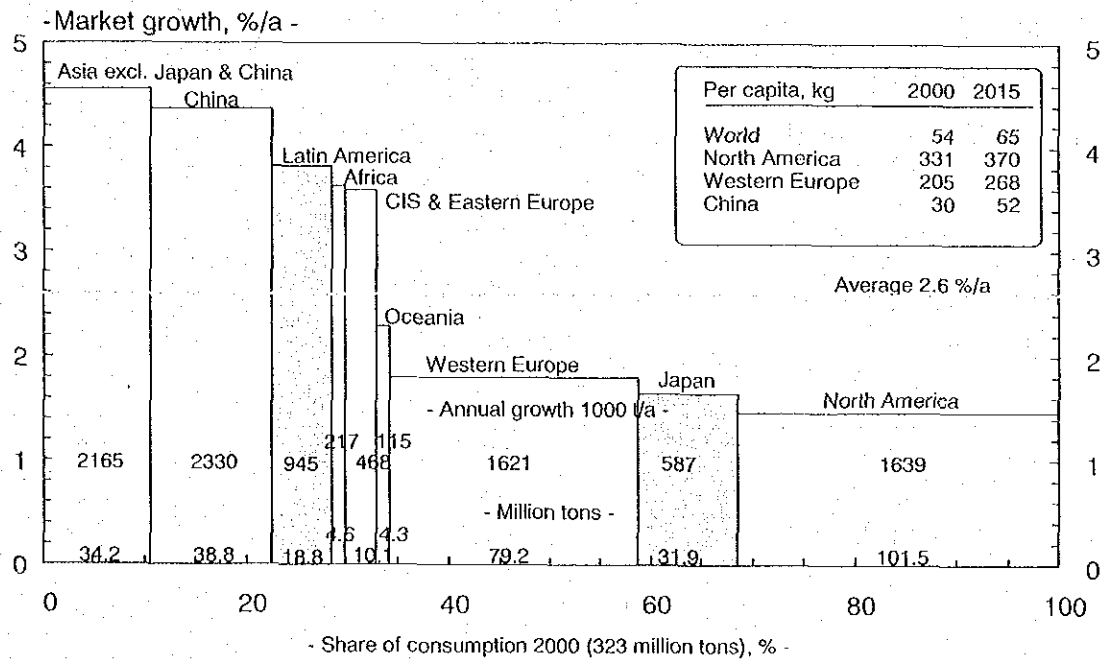
Asia is expected to have the highest paper demand growth rate

- The growth of paper and paperboard consumption differs significantly between different regions. In North America, which has the world's highest per capita consumption of paper and paperboard, there are indications of saturation, with

comparatively low population growth. These factors, among others, result in a relatively low paper demand growth for this region up to 2015 (Figure 2-3).

In Western Europe, the population growth is still lower, but the paper demand saturation trend is less pronounced, since some countries still have a comparatively low per capita consumption. Thus, a somewhat higher growth rate is expected for Western European paper and paperboard consumption.

FIGURE 2-3 GROWTH OF TOTAL PAPER AND PAPERBOARD DEMAND BY REGION 2000-2015



Source: JICA Study Team

In Eastern Europe, including the CIS, the consumption dropped significantly when the Soviet system collapsed. Especially in Russia, the recovery has taken longer than anticipated.

Paper demand growth in the period 2000-2015 is expected to be highest in Asia, excluding Japan. In this region, both population and per capita consumption are expected to increase considerably, with the main part of the population being quite young. GDP growth is also faster than elsewhere in the world. Combined, these

circumstances will result in an average demand growth of 4.5%/a or 4.5 million tons/a.

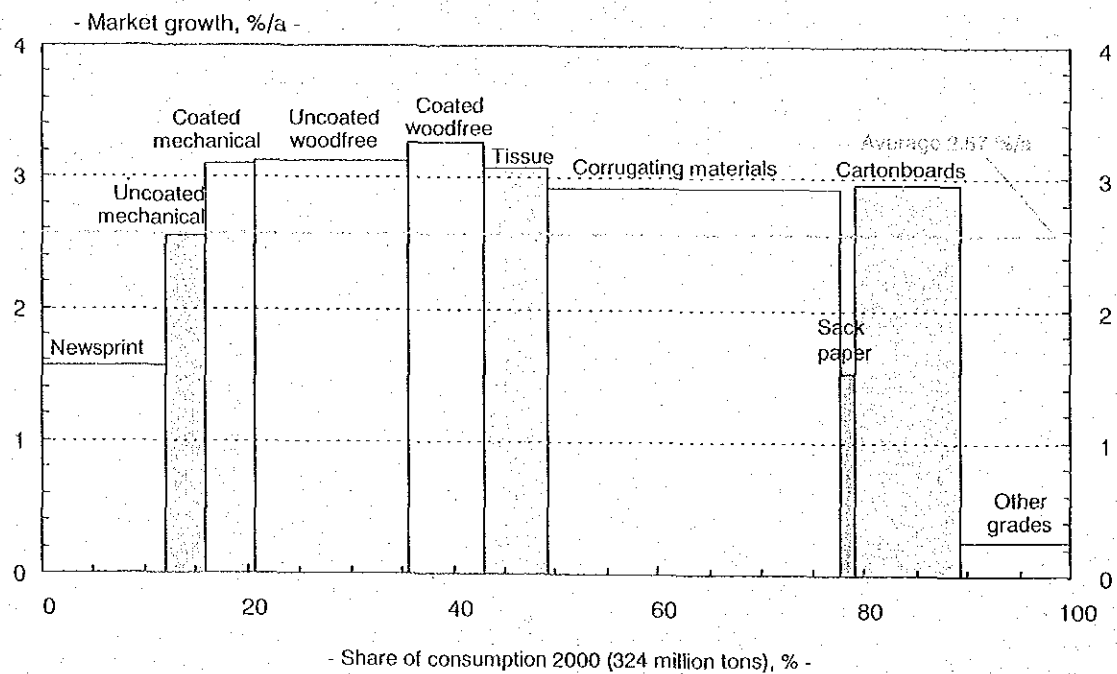
Printing and writing paper will enjoy the fastest growth of demand

- Printing and writing paper (P&W) has, since the first half of the 1980s, been the largest product segment, followed by corrugating materials, newsprint, cartonboards and tissue paper. The fastest growing sectors in 1980-2000 have been P&W, 4.4%/a, and tissue, 3.8%/a, followed by corrugated box materials, 3.7%/a, and cartonboards, 2.9%/a. Growth of newsprint has been 2.1%/a.

High growth is expected to continue for printing and writing papers

- The long-term growth rates for the respective product segments up to 2015 are illustrated in Figure 2-4. Considering the threat and competition from electronic media, the demand is expected to grow slower for P&W.

FIGURE 2-4 GROWTH OF PAPER AND PAPERBOARD DEMAND IN THE WORLD BY MAIN PRODUCT SEGMENT 2000-2015



Source: JICA Study Team

- However, demand will grow faster for P&W papers than for any other end-use sector. Since P&W papers account for the highest share of market pulp consumption, the trend will be very positive for market pulp demand.
- Above average growth for tissue and some paperboard grades will also benefit demand for market pulp.

2.2 Production of Paper and Paperboard

Competitive advantages, market growth, industrial tradition and know-how will drive the growth of paper production

- Paper is produced essentially where it is consumed. Even so, the trade between countries and regions has increased faster than overall consumption.
- The availability and competitive costs of fibrous raw materials, energy, chemicals and manpower are the main driving forces for paper and paperboard production. Other important factors include:
 - Nearness to the markets and/or efficient and low-cost means of transport
 - An industrial tradition and know-how.

World paper and paperboard production has increased by 90% since 1980

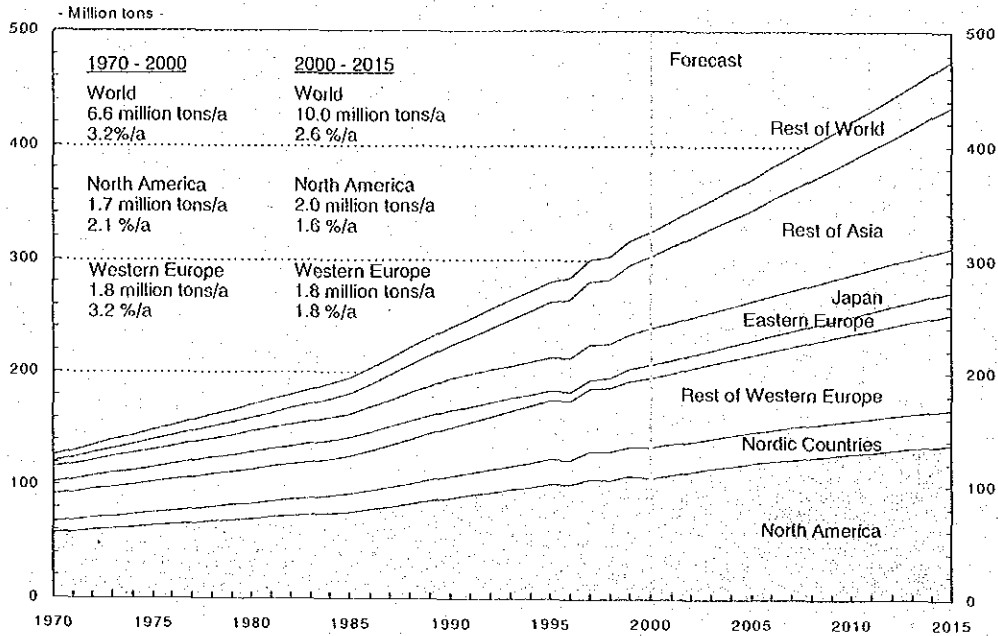
- World paper and paperboard production increased from 171 million t/a in 1980 to 325 million t/a in 2000, i.e. by 90%, equalling an average annual production growth of 3.3% or 7.7 million tons in this period (Figure 2-5).

North America's dominance as a paper producer is declining

- In 1980 North America accounted for 41% of the world's total paper and paperboard production. The share had dropped to 33% in 2000, and it is expected to decline further to 29% by 2015.
- At the same time, the production increased in China and the rest of Asia, excluding the Middle East and Japan, at an average rate of 9%/a. As a result, these regions' combined share of world paper and paperboard production increased from 7% in 1980 to 20% in 2000. Although the relative production growth in these regions is forecast to slow down in the future, their share of world paper and paperboard production is forecast to reach 26% by the year 2015.

- Latin America's share is also expected to increase from about 5% of world paper production in 2000 to 6% in 2015.

FIGURE 2-5 WORLD PAPER AND PAPERBOARD PRODUCTION BY REGION 1970-2015

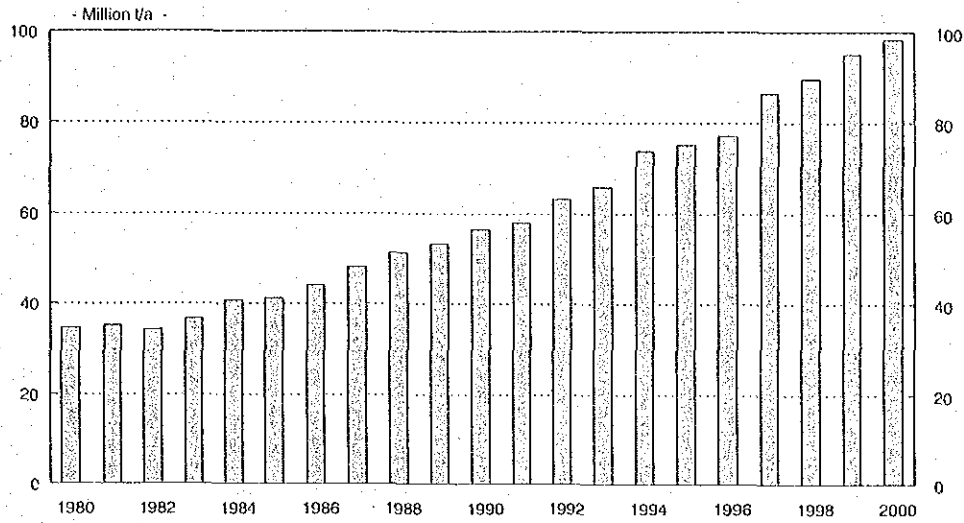


Source: JICA Study Team

International trade will continue to increase

- Even if paper is produced to a large extent where it is consumed, international trade has increased continuously by annually 5.4% or 3.2 million tons. It represents presently about 30% of consumption (Figure 2-6). International trade has, thus, increased faster than consumption.

**FIGURE 2-6 INTERNATIONAL TRADE OF PAPER AND PAPERBOARD
1980-2000**

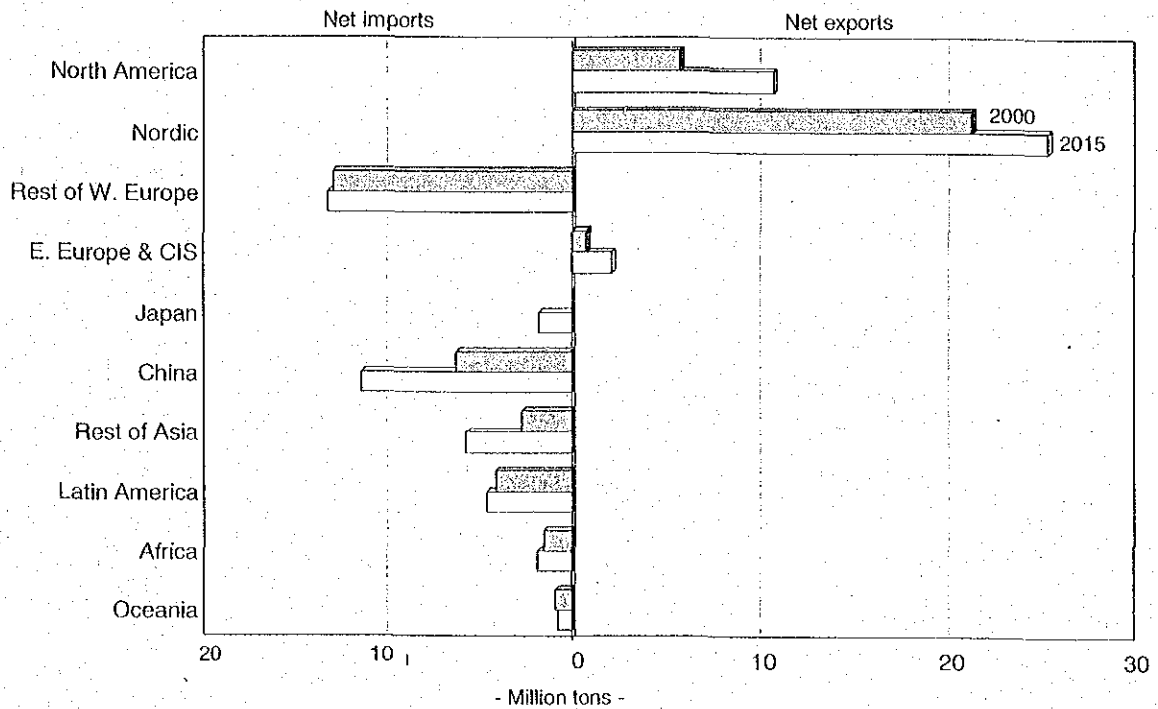


Source: JICA Study Team

But net trade patterns will change little

- Today's net importers of paper and paperboard will have even bigger deficits in 2015, particularly China, whilst North America and Western Europe will have increasing export volumes (Figure 2-7).

FIGURE 2-7 NET TRADE OF PAPER AND PAPERBOARD 2000 AND 2015



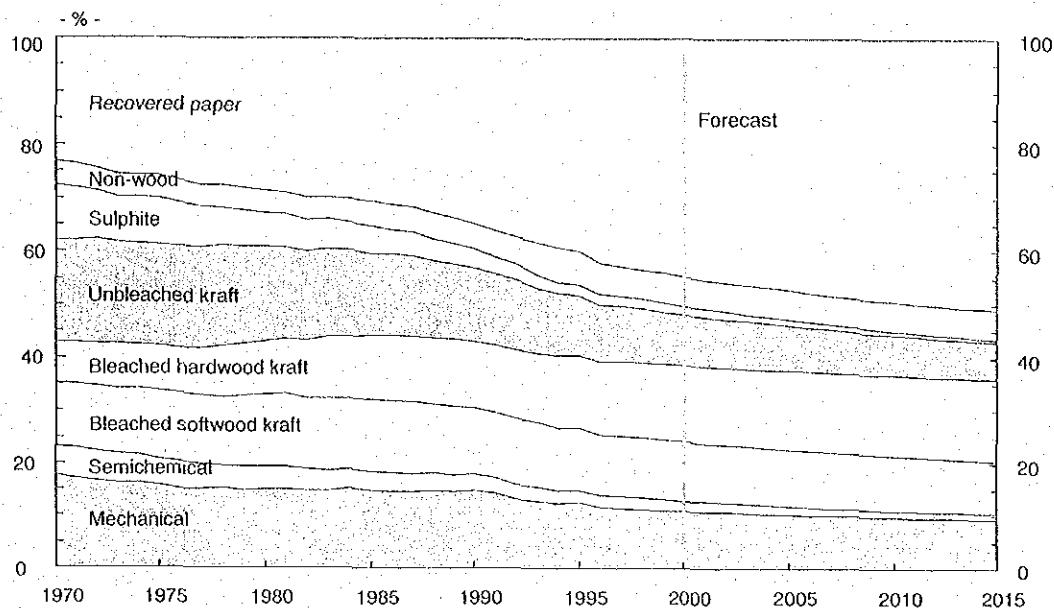
Source: JICA Study Team

2.3 Changes in Furnish Composition

There are many reasons for furnish changes

- Reducing costs is one of the most important factors influencing furnish changes in paper and paperboard, but there are many other factors involved including changing paper quality requirements, changing mill and process requirements, pulp quality changes, increasing use of pigments and a range of environmental considerations (Figure 2-8).

FIGURE 2-8 GLOBAL FIBRE FURNISH COMPOSITION FOR PAPER AND PAPERBOARD 1970-2015

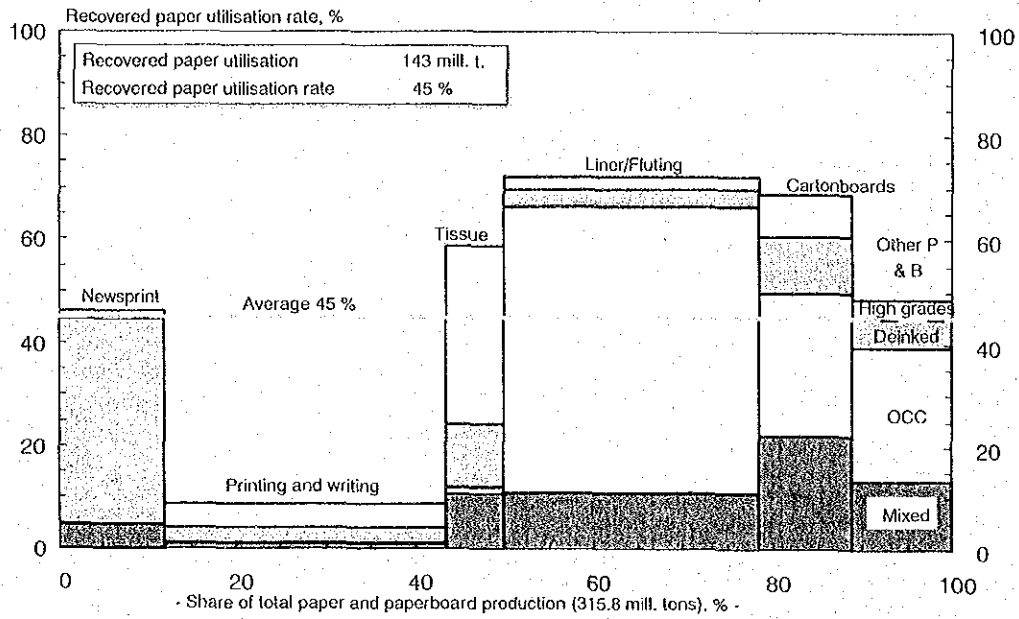


Source: JICA Study Team

Increasing use of recovered paper will be the most prominent change

- The rapid development in use of RCP will continue, essentially because it is a reasonably priced and technically suitable material for many products, but also because the availability of RCP is improved through either mandatory or voluntary collection schemes. RCP is considered to be an “environmentally friendly” raw material, which helps to preserve natural resources. Besides, deinking and RCP-based paper production is based on proven technology.
- RCP consumption will reach 247 million tons by 2015, accounting for more than 46% of all raw materials used by the paper and paperboard industry.
- But strongly growing use of RCP will not have such a dramatic effect on use of market pulp. This is because RCP is used very largely in grades that are not significant users of market pulp – for example newsprint and corrugated box materials. Increased use of RCP in printing and writing papers and tissue will be largely offset for market pulp suppliers by increased consumption of these grades (Figure 2-9).

FIGURE 2-9 GLOBAL UTILIZATION OF RCP BY GRADE AND END-USE SECTOR 1999

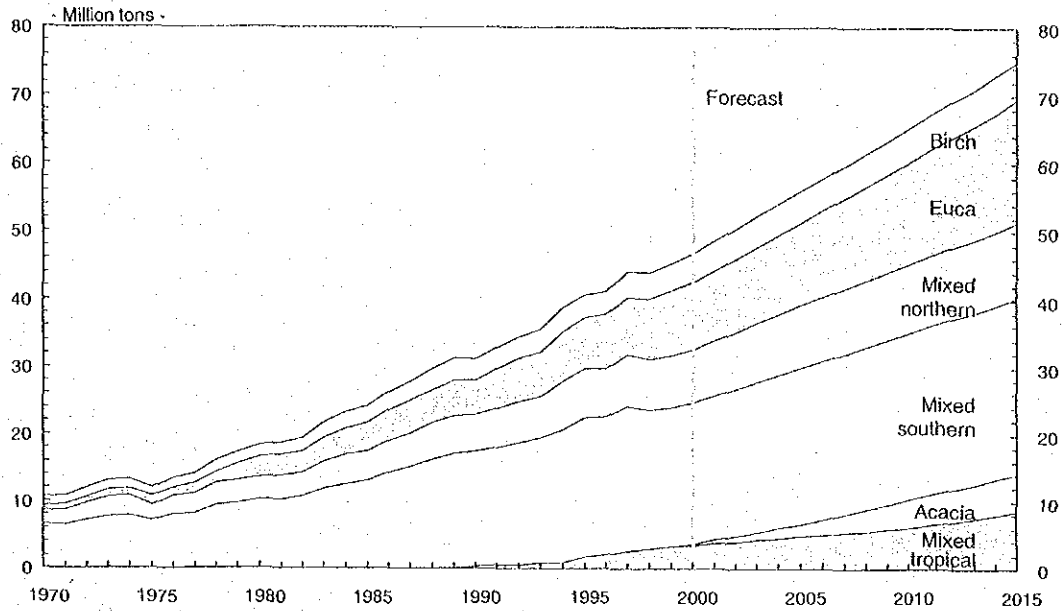


Source: JICA Study Team

Bleached hardwood kraft pulps – the fastest growing virgin woodpulp

- Use of BHKP, integrated and market, will reach 75 million tons by 2015 accounting for 14% of paper and paperboard raw material consumption – an average annual growth of 3.2% or 1.9 million tons in the period 2000-2015 (Figure 2-10).

**FIGURE 2-10 GLOBAL TOTAL BHKP CONSUMPTION
BY SUB-GRADE 1970-2015**



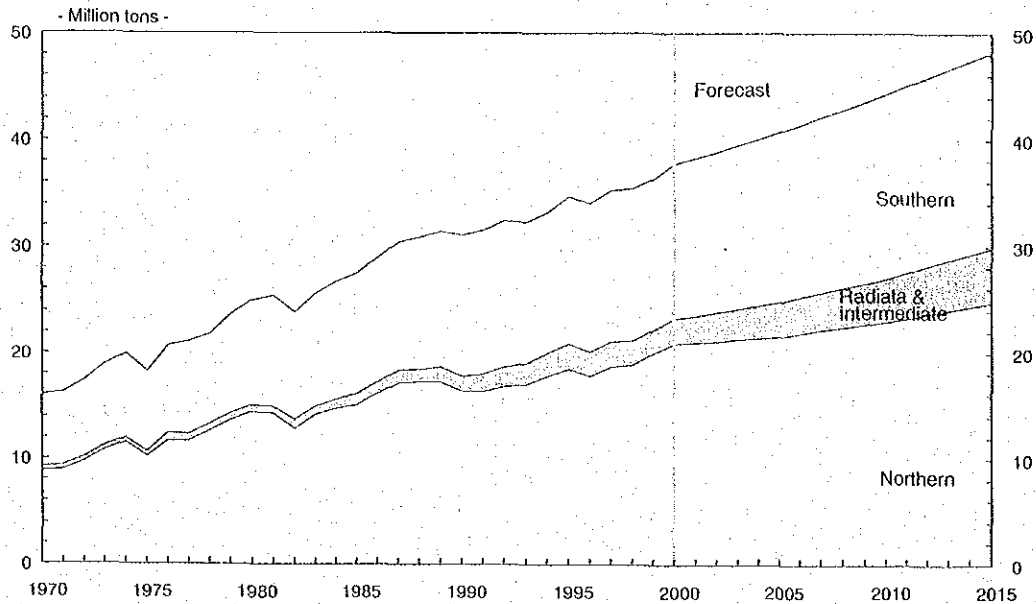
Source: JICA Study Team

- Asia's share of BHKP consumption will increase considerably. Eucalyptus is increasingly recognised as the quality leader amongst the variety of BHKP grades. Acacia will grow in importance in Asia, whilst birch BHKP will continue to be preferred in the northern hemisphere when fibre strength is critical.

Bleached softwood kraft pulps – slower growth and declining share

- World consumption of BSKP, integrated and market, will grow at only half the pace of BHKP, i.e. by annually 1.7% or 0.7 million tons, to reach 48 million tons by 2015. This will mean that BSKP's share of papermaking fibre consumption will decline to about 10% (Figure 2-11).
- Consumption of BSKP made from Southern US pine and radiata pine will grow faster than BSKP made in the Nordic countries or the northern parts of North America.

**FIGURE 2-11 GLOBAL TOTAL BSKP CONSUMPTION
BY SUB-GRADE 1970-2015**



Source: JICA Study Team

BSKP and BHKP are increasingly used in printing and writing papers

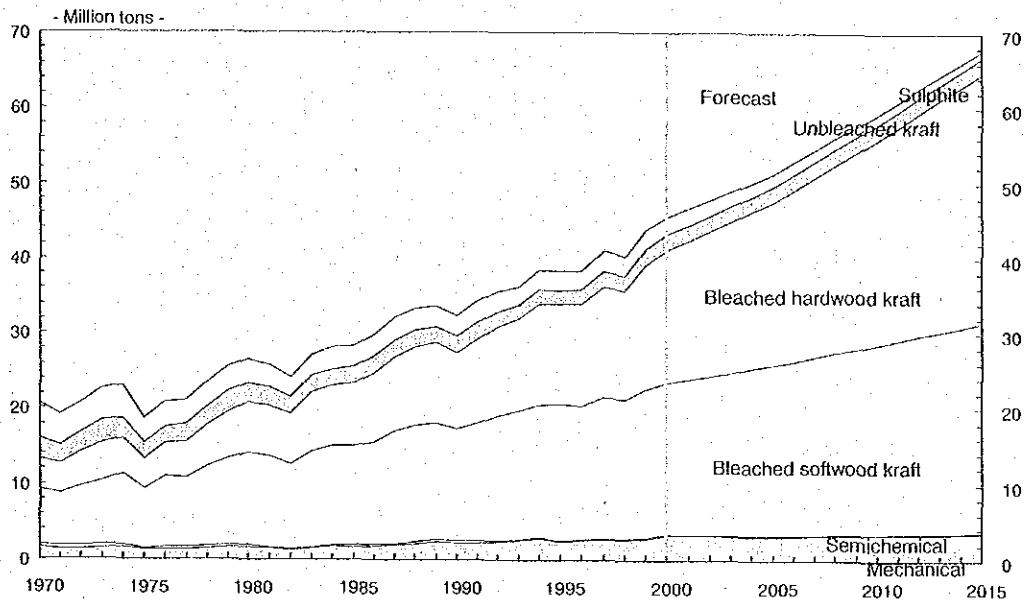
- More and more of BSKP is being used for printing and writing papers, bringing their share to 63% of the total use of BSKP in 2015 because of:
 - Faster-than-average growth of demand for these grades
 - Technological development of paper and paperboard machines for other grades, allowing high-speed production in spite of weakening furnishes
 - Increasing share of RCP used in the packaging sector, in tissue products and in newsprint, and
 - Partial replacement of BSKP by BHKP in the tissue sector.
- For BHKP, in which woodfree printing and writing papers already account for about 62% of the total consumption, the reasons for growth are, in addition to faster average growth for P&W grades, also technological development of P&W paper machines allowing high-speed production with a higher share, up to 100%, of hardwood in the fibre furnish.

2.4 Future Demand for Paper Grade Market Pulp

Continuing healthy growth in market pulp demand

- Demand for market pulp will be growing faster up to 2015 than total virgin pulp demand, despite continued integration of pulp with paper and paperboard production.
- Total demand for virgin market woodpulp will increase at an average annual rate of 2.7% or 1.5 million tons per year to reach 67.8 million tons in 2015 from the present level of 45.5 million tons (Figure 2-12).

FIGURE 2-12 WORLD MARKET WOODPULP DEMAND BY GRADE 1970-2015



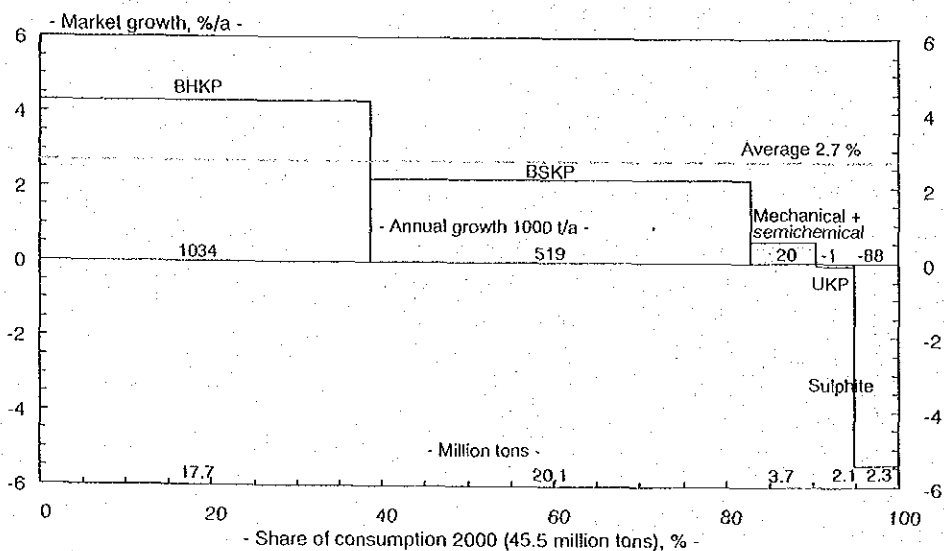
Source: JICA Study Team

At least one new market pulp mill per year will be needed

- Because of annual capacity creep by improved efficiency through learning, de-bottlenecking, etc. 0.75 –1.0% or about 0.4 million tons of the annual demand growth will come from existing facilities, while a capacity of somewhat more than 1 million tons annually needs to be added by building new mills or major rebuilds of existing mills.

- Thus, there will be a need for about one new mill and one or two major rebuilds of existing mills per year over the next decade or so to meet the expected growth in demand for market pulp.
- Virtually all the growth of demand for market pulp will be in BHKP and BSKP grades. Sulphites will continue to decline, as will unbleached kraft to a small extent, whereas growth of demand for mechanical pulps will be well below the average (Figure 2-13).

FIGURE 2-13 GROWTH OF WORLD MARKET WOODPULP DEMAND BY GRADE 2000-2015



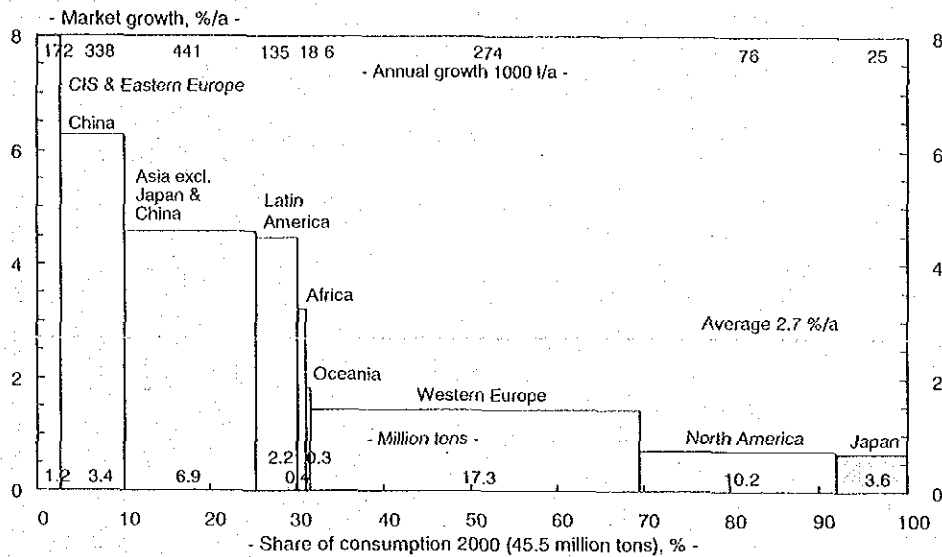
Source: JICA Study Team

- Consumption of BHKP will grow at more than twice the rate of BSKP in volume terms, meaning that by 2006-2007 BHKP will become the dominant grade of market pulp.

Asia will be the focus of growth

- The fastest growth of demand for market pulp will be in Asia where consumption will rival that of Western Europe by the end of the forecast period in 2015 (Figure 2-14).
- Growth of demand in Western Europe and North America will be well below the global average.

FIGURE 2-14 GROWTH OF WORLD MARKET WOODPULP DEMAND BY REGION 2000-2015



Source: JICA Study Team

Wood resources will determine the locations of new market pulp mills as well as the grades produced

- The availability of wood will determine new capacity shifts from North America and the Nordic countries to the southern hemisphere and other regions, which will have a major influence on the grades produced, as will the growing importance of plantation wood.

New pulpwood species and technology may also impact the grade development

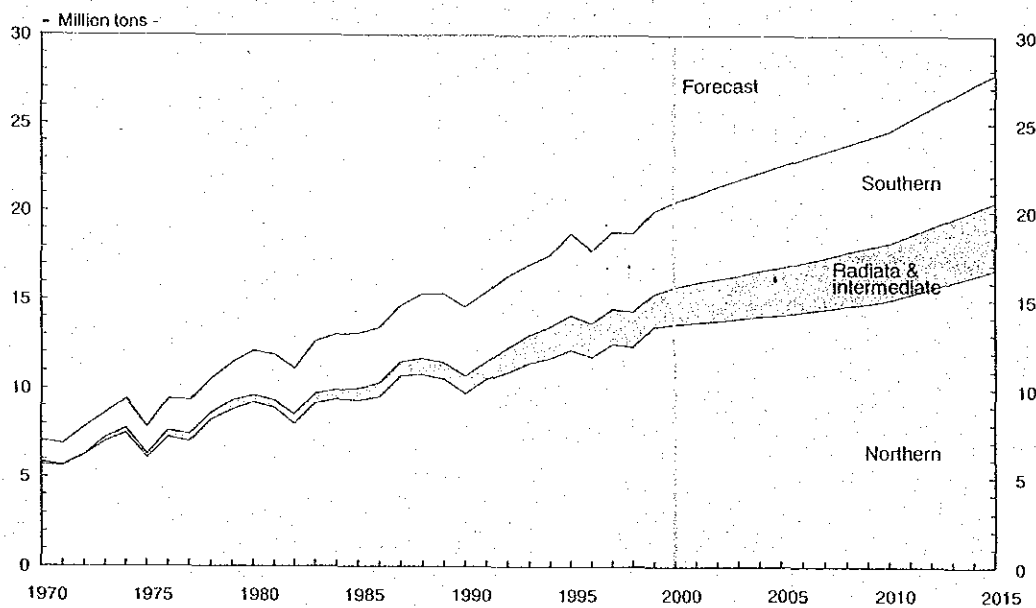
- The maturing acacia plantations in Asia, particularly in Indonesia, will have an important impact on the bleached kraft pulp market in the long term. Aspen and poplar have made a comeback and other new pulping species may still be introduced either for hardwood or non-wood pulps.
- On-going trends such as the switch to the sulphate process from sulphite as well as major changes within the mechanical pulp sector will continue. Whereas current research activity suggests that no similar major shifts in technology are likely in coming years, changes in papermaking technology may influence pulp quality developments. If multi-layer paper technology were to achieve a serious

breakthrough, for example, it could have major implications for pulp quality requirements.

BSKP – one new market pulp mill every second year

- The annual volume growth in demand for market BSKP will be about 490 000 tons (2.0%/a) from the present consumption level of 20.6 million tons, which - allowing for capacity creep from existing mills - will mean either one new mill every second year or a major expansion of existing capacity each year (Figure 2-15).
- The growth in Asia will equal three to four times the rate of growth in North America and Western Europe, demonstrating the need to introduce reinforcement fibre in addition to local hardwood or non-wood pulps.
- Although BSKP from northern sources constitutes about two-thirds of market BSKP volume, the highest relative growth will be seen in intermediate grades of BSKP, and principally in pulps based on *Pinus radiata*.
- The trade flows in BSKP between North America and Asia, between Latin America and Europe as well as within Europe will become increasingly prominent.

FIGURE 2-15 GLOBAL MARKET BSKP CONSUMPTION BY SUB-GRADE 1970-2015

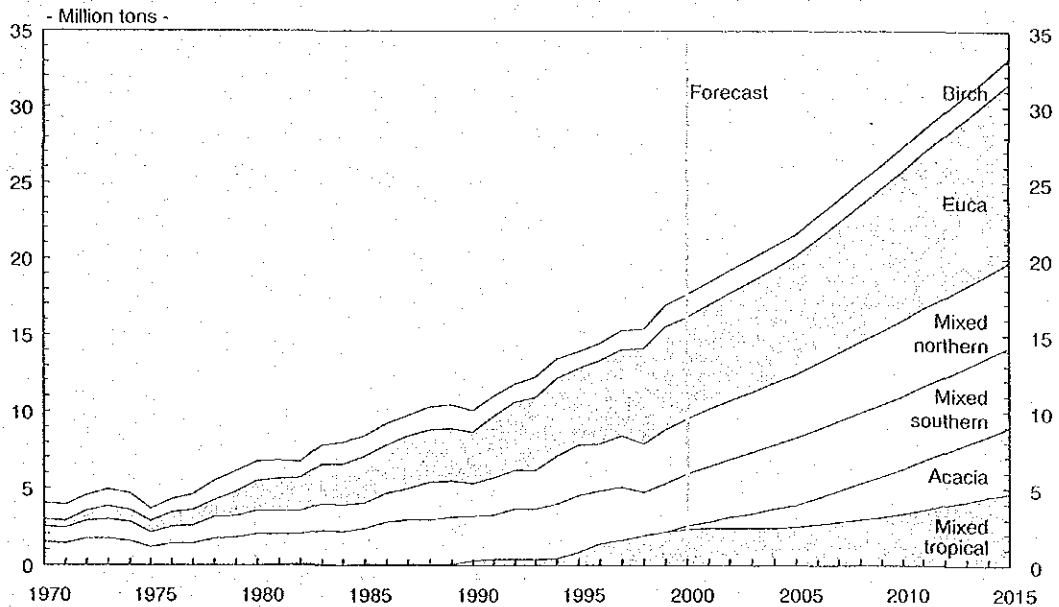


Source: JICA Study Team

BHKP -- increasing grade diversification

- The annual volume growth of demand for market BHKP will be about 1.0 million tons or 4.3% from the present level of 17.7 million tons. Consumption would then reach 33.2 million tons in 2015 (Figure 2-16).
- In addition to mixed southern pulps, eucalyptus will continue to dominate the market BHKP picture, but both acacia and mixed tropical hardwoods will play greater roles in the future.
- Since 1970, Western Europe has shown the highest growth of consumption of market BHKP, but in the future China and also the rest of Asia will grow much more quickly.
- Existing trade flows will be maintained but growth in trade will be seen particularly within Asia, and between Latin America and Europe as well as from Latin America to Asia, including Japan.

FIGURE 2-16 GLOBAL MARKET BHKP CONSUMPTION BY SUB-GRADE 1970-2015



Source: JICA Study Team