

PULP, PAPER AND PACKAGING INDUSTRY OF MYANMAR

Introduction

This compendium focuses on recent developments in Myanmar's pulp and paper and cardboard packaging industry. The traditional craft of ornamental papermaking, still practised in some parts of the country, is not touched on in the articles included here.

The recent openings of a large new bamboo pulp plant and its first paper plant using jute as feedstock can be taken as signs that Myanmar is poised to leave behind its position near the bottom of paper producing countries in Southeast Asia. Moreover, other new mills are in the planning and construction phases.

Paper consumption has also risen notably in the country during the last few years – over 35% in the last three years alone. Nevertheless, Myanmar still had to import two thirds of the paper it used in 2004. And the conditions under which the industry is being developed make it highly unlikely that this imbalance will be altered in the near term.

Most of the machinery for the new mills either under construction or in the planning stages is being imported from China and the agreements under which they are being built requires that payments be made through the export of a large portion of the pulp that will be produced in the early years of operation.

Restrictions are also laid on the expansion of the industry by shortages of adequate feedstock for the small private factories and workshops that produce almost half of the paper and cardboard manufactured in the country. Many of these smaller plants still operate with antiquated machinery and their owners lack the necessary resources to import new equipment or upgrade the old.

Most articles in the compendium are arranged in chronological order with the most recent ones at the head of the list. However, in some cases it was considered to be more useful to gather reference to a single factory under a single heading. e.g., those dealing with the Sittoung paper mill.

The article headings have been changed from the original headlines in many cases to more faithfully reflect the contents. Some articles have been shortened or edited to make them more appropriate to their place in this collection.

Bibliography

The only general study of the pulp and paper industry in Myanmar that we have been able to locate is a brief entry in an FAO country report published in 1997. Although much of the information in the article is now outdated we have included in the compendium for reference purposes.

Bamboo is the main natural feedstock available to the pulp industry in the country and brief references that deal with this subject from three technical papers on bamboo have been added at the end of the compendium

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Figure 1,2	The New Light of Myanmar
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200-TON THABAUNG PULP PLANT COMMISSIONED INTO SERVICE [▲Contents](#)

Thabaung: New Light of Myanmar: 15-05-05

The inauguration of the 200-ton Thabaung Pulp Plant of Myanma Paper and Chemical Industries took place at the plant near Hlaygyitet Village in Thabaung Township with an address by Prime

Minister Soe Win. Also present on the occasion was a member of the SPDC, cabinet ministers, deputy ministers, officials, the Chinese ambassador to Myanmar, the president of China Metallurgical Construction Corporation Mr Ma Yanli, and local residents.

In his address Lt-Gen Soe Win said that Thabaung would become a region endowed with many industries based on paper thanks to the emergence of the pulp plant. Out of the 200 tons of pulp the plant produces daily, 150 tons will be exported, and 50 tons will be used in producing quality paper and different types of paper. According to the process, a 50-ton quality paper plant and a 60-ton newsprint plant will be built. In a few years, these a paper mill and newsprint mill will be completed, and by then, Thabaung will become a region of paper and chemical zone creating a lot of job opportunities, and modern technologies will be disseminated in the region.

Now, the annual pulp manufacturing capacity of State-run factories -- Sittoung, Yeni, Paleik and Kanbe pulp plants -- is around 25,000 tons and 300 private factories [are producing] more than 27,000 tons. Due to the technological changes, the State's paper demand is on the considerable increase. The nation's paper production fulfils only 33 per cent of the demand [amounting to] 160,000 tons a year. As a result, the government has to build new pulp plants and paper plants, while repairing or upgrading the old ones. The plants in the compound of the Thabaung Pulp Plant will enable the industry to produce not only exports but also import-substitute items.

The State has had to invest K 28 billion plus US\$ 90 million in the Thabaung Pulp Plant Project. It will also has to pour US\$ 18 million into the quality paper plant project and more than 36 million into the paper plant for production of newspaper paper. Such a gigantic project is beyond the reach of national entrepreneurs and paper industry is the one necessary for the State. Therefore, the State has established a paper and pulp mill based on the nation's rich forest resources for establishment of an industrialized nation.

Managing Director U Than Shwe and officials of Myanma Paper and Chemical Industries reported on the running and process of the thermal power and recovery plants. Next, the Prime Minister and party inspected production of caustic soda and chlorine oxide, cutting of bamboo and stockpiling of bamboo. They inspected unloading of bamboo from Ngawun River and bamboo rafts, water treatment plant. They also attended a stake-driving ceremony of the 50-ton paper mill.

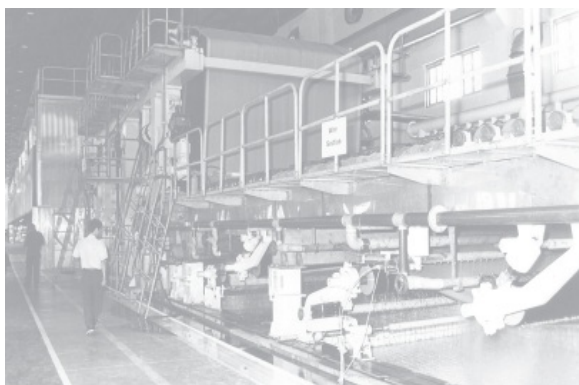


Figure 1: New pulp mill at Thabaung



Figure 2: New pulp mill at Thabaung

Thabaung in Ayeyawady Division has become an industrial region endowed with many industries based on paper thanks to the emergence of the [new pulp] plant. It gets raw materials from about 400,000 acres of bamboo in Thabaung, Yekyi, Laymyethna and Ngapudaw townships in the western part of Ayeyawady Division and Gwa Township in Rakhine State. Out of the 200 tons of pulp the plant has planned to produce daily, 150 tons will be exported and 50 tons will be used in producing quality paper and different types of paper. According to the process, a 50-ton quality paper plant and a 60-ton newsprint plant will be built. . . . [Currently], the annual pulp manufacturing capacity of State-run Sittoung, Paleik and Kanbe pulp plants is around 25,000 tons and 300 private-run plants, more than 27,000 tons. Due to the development in various sectors, the State's paper demand is on the considerable increase. The nation's paper production can fulfil only 33 per cent of the demand of 160,000 tons a year. . . . Up to now, out of the factories, mills and plants in Myanmar, Thabaung Pulp Plant is the largest one in terms of investment, production volume and strength of employees. Since the year 2000, the region has been establishing tree plantations in concert with the Ministry of Forestry for industrial raw materials and to avoid compromising the environmental conservation. So far, 12,650 acres has been put under tree plantations and 3,000 acres, bamboo plantations. (Thabaung: Moe Htet Myint: New Light of Myanmar: 14-06-05)

Paper factories in Myanmar, including state and private operated ones, produced a total of 57,000 tons of paper a year against its demand of 160,000 tons, according to the latest official statistics. The figures also show that Myanmar imported over 80,000 tons of paper annually, including those through border points. (Yangon: Xinhua: 14-05-05)

Prime Minister General Khin Nyunt and party arrived at the 200-ton pulp factory project (Thabaung) in Hlaygyidet Village in Thabaung Township. Managing Director of the MPCIU Than Shwe reported on completion of construction work, acquisition of raw materials, establishment of bamboo groves and wood plantations for newsprint mills . . . and the site chosen for construction of 12-mile long Daka-Hlaygyidet production road. The PM called on officials of the Ministry of Industry-1 and the Ministry of Forestry to make field tours to collect correct data relating to the raw materials and presented a fruit basket to President Assistant Mr Xiangchun Xu and Project General Manager Mr Liu Hua of China Metallurgical Construction Corporation. The 200-ton pulp factory project (Thabaung) is located on 1,107 acres and construction started on 1 November 2001. Efforts are being made to complete the project by April 2004. (Thabaung: New Light of Myanmar: 07-09-03)

Minister for Industry-1 U Aung Thaung arrived at the 200-ton Pulp Factory Project (Thabaung) in the Hlegytet area of Thabaung Township [where the ministry] . . . is implementing a 50-ton Paper Mill Project, a 60-ton Newsprint Factory Project and a 200-ton Pulp Factory Project with a view to ensuring manufacturing of import substitute products. Afterwards, the minister met

local people and gave instructions on opportunities of job vacancy in implementing the project for local people and attended to their needs.

The minister then inspected thriving trees which are on the first phase 850 acres for the 200-ton Pulp Factory of Kyaukchaunggyi forest reserve. Deputy Director-General U Shwe Kyaw of Forest Department reported to the minister on planting, conservation and cutting of trees in the forest reserve in Patheingyi Township. The minister said 2,000 acres of tree plantation should be grown a year instead of 1,000 acres, then, 10,000 acres of plantation must be extended and the Ministry of Industry-1 and the Forest Department are to cooperate conservation of thriving trees and take measures for fire prevention. (Thabaung: New Light of Myanmar: 24-12-00);

Myanma Paper and Chemical Industries under Ministry of Industry-1 and China Metallurgical Construction (Group) Corporation of the People's Republic of China signed a 90 million-dollar contract on building a pulp factory with a daily production capacity of 200 tons at Hlaygyit village, Thaboung township, Ayeyawady Division. Speaking on the occasion, Minister for Industry-1 U Aung Thaung said the remaining contract cost is to be settled through barter system. Mr Yang Chang Heng also spoke words of thanks. Managing Director of MPCIC U Ngwe Thaw and Mr Yang Chang Heng signed the contract. (Yangon: New Light of Myanmar: 01-09-00)

MAUBIN JUTE MILL BEGINS PAPER PRODUCTION [▲Contents](#)

Yangon: Myo Lwin: Myanmar Times: 14-02-05

Commercial production of high quality paper began late last month at the new mill at Maubin in Ayeyawaddy Division, an official from the Ministry of Agriculture and Irrigation said. A general manager of the ministry's Myanma Jute Industries, U Ye Gaung, said the mill would produce 5000 tonnes of white paper a year from jute, which grew in abundance in the area. "We have made test runs and the paper quality was found to be 80 per cent white, which is pretty good," U Ye Gaung said in a telephone interview. Commercial production had begun on January 29, when the opening ceremony was held for the mill, he said.

The mill was built as a joint project by the MJIC and the China Yunnan Corporation, which provided nearly US\$5.7 million worth of machinery. The MJIC invested nearly K2 billion in the project, mainly on civil works, U Ye Gaung said. "As agreed when we signed the contract in September 2002, we have paid 40 per cent of the cost for the machinery during the past three years," he said. The balance would be covered from the sale of paper to the China Yunnan Corporation at a contract price of \$700 a tonne, he said. This would enable the balance of the machinery costs to be paid in about two years, said U Ye Gaung.

He said the project was mutually beneficial as it enabled the corporation to sell its machinery, while Myanmar would be able to produce an import substitute. The paper would be sold on the domestic market after the machinery had been paid for. "Instead of exporting raw jute, we are moving forward to producing a value-added product which will fetch a better price and also

create jobs,” U Ye Gaung said, adding that the mill has a workforce of 300. He said the mill, which would need 15,000 tonnes of raw jute a year, was environmentally friendly because it did not contribute to deforestation. U Ye Gaung said MJI previously operated a jute bag factory at Maubin but it had ceased production because of competition from plastic bags, which were cheaper.

A ceremony to inaugurate Maubin Paper Mill of Myanmar Jute Enterprise was held at the mill near Pantaput Village of Maubin township yesterday morning. . . . Managing Director U Ye Phone Myint reported on production capability, purchase of raw materials and growing of jute. Minister for Agriculture and Irrigation Maj-Gen Htay Oo said the mill will contribute towards the economic development of local jute growers [as they will] have opportunities to sell all parts of the jute plant to the mill. Machinery imported from China [through the] Yunnan Corporation [is able] to produce quality paper by using the whole plant. Paper produced at the mill will be of a quality that can penetrate foreign markets. Chairman of China Yunnan Corporation Mr Guo Xiao Yong gave a speech.

Maubin Paper Mill has the capacity to manufacture 17 tons of paper a day, 455 tons a month and 5,000 tons a year. It will produce 2,500 tons of writing paper and 2,500 tons of offset printing paper a year. Though the mill requires 9 million viss of jute raw materials annually, a total of 9.3 million viss of raw materials are kept at the mill. A plan is under way to extend sown acreage of jute annually. (Maubin: New Light of Myanmar: 31-01-05)



Figure 3: Jute pulp processor at Maubin mill



Figure 4: Finished rolls of paper

YENI PULP AND PAPER MILL TO GET \$ 81.5 MILLION UPGRADE [▲Contents](#)

Yangon: Thet Hlaing: Myanmar Times: 04-10-04

Myanmar Paper and Chemicals Industries plans to start work later this year on a US\$ 81.5 million project that will more than triple kraft paper production at a mill in Bago Division, a senior government official said last week. The general manager of MPC, U Thein Win, said the project involved building a new production facility at the Yeni mill at Yedashe that would increase its daily kraft paper output from 25 tonnes to 105 tonnes. The project also includes building a factory at the mill capable of producing 50 tonnes of paper pulp a day, of which 25 tonnes would be supplied to the ministry's newsprint plant at Paleik in Mandalay Division. The

Paleik plant currently uses recycled newspapers as raw material. Buyers for the other 25 tonnes would be sought in Myanmar and overseas, U Thein Win said.

He said the buildings and equipment for the expansion project would be supplied by China's Chengda Chemical Engineering Corporation, under a turn-key contract it signed with the ministry in 2001. "We expect work on the project to begin in early November after a 10 per cent payment is made to the Chinese company," U Thein Win said.

The kraft paper will be made from bamboo and supplied to cement producers to make bags. U Thein Win said the number of factories making cement had increased and being able to supply them with kraft paper would help to reduce reliance on imported bags.

The 50 tonnes pulp factory will use softwood as a raw material. The expansion plan at the 620-acre compound at the mill includes the installation of a chemicals recovery system to process waste water. "The new chemical recovery system will bring cost savings and reduce pollution," U Thein Win said.

The MPCI general manager also revealed last week that the Ministry of Industry (1) and a Chinese company have signed a memorandum of understanding to build a factory at Monywa capable of producing 200 tonnes of paper pulp a year. U Thein Win said the MoU with the Tsingda Daring Biotechnologies Group Corporation was signed in early August. He said the MoU provided for the factory to go into production within two years, subject to the availability of electricity and natural gas. The natural gas was needed to operate boilers as steam was needed to make pulp. He said it would take at least 18 months to complete the factory, which would export most of its output to China under a buyback system. The pulp will be used to make high-quality paper.

Negotiations on the project began three years ago and the two sides needed to finalise details about the cost and payment systems, U Thein Win said. In 2001, the ministry conducted a preliminary survey at the proposed site of the mill, at Aung Moe Village about three miles north of Monywa. The project followed a report by the Ministry of Forests about the area's forests and its potential for establishing eucalyptus plantations, which would be used as a source of raw materials for the mill. U Thein Win said natural forests would not meet the raw material needs of the mill and the ministry planned to establish about 120,000 acres of eucalyptus plantations. About 3,000 acres of plantations had already been established and another 10,000 acres would be planted this year. The mill will need about 1,000 tonnes of timber a day to operate at capacity. U Thein Win said the mill would benefit Myanmar by transferring technology and creating jobs.

SITTOUNG PAPER MILL TO DOUBLE PRODUCTION [△Contents](#)

Yangon: Thet Hlaing: Myanmar Times: 27-09-04

Production from the Sittaung paper and pulp mill* at Kyaikhtiyo in Mon State will more than double in early November after a US\$7.92 million renovation project is completed, a senior government official said. The general manager of the Department of Myanmar Paper and Chemical Industries under the Ministry of Industry (1), U Thein Win, said daily paper production

from the mill will rise to 40 tonnes, from 20 to 25 tonnes. Daily pulp production would rise from 25 tonnes to 60 tonnes, U Thein Win said.

The mill, which makes paper from bamboo**, is being renovated*** under a contract signed in December 2002 between the ministry and the China National Machinery and Equipment Export and Import Corporation. Equipment supplied under the contract has included bamboo chipping machines, pulp leaching equipment and boilers to increase the efficiency of the mill's chemical recovery and water treatment systems.

U Thein Win said the renovation project was needed to upgrade facilities at the mill, which went into production in 1970 and has a workforce of 3000. U Thein Win said renovating the chemical recovery system would bring cost savings and reduce pollution. The system would increase the recovery rate of the toxic chemicals used in the production process – caustic soda and sodium sulphate – from 20 per cent to 80 per cent. The chemical recovery and water treatment systems would ensure that waste water released into the Sittaung River did not harm the environment, U Thein Win said.



Figure 5: Sittaung pulp and paper mill



Figure 6: Sittaung pulp and paper mill

* See also the article below: “Three older paper mills briefly described”

** A report published by Earthrights International in 2003 describes the way in which the bamboo is procured for the Sittoung mill from the eastern Bago *yoma*: “The Sit Taung Paper Factory in Thein Zayat Village [pays] local people, many of whom are extremely poor, from Payagyi, Pagu, Thein Zayat, and Kyaiton to cut down their stands of bamboo for which they receive 10 Kyat per one full-length of bamboo (a mature piece of bamboo is typically 20-30 feet long). To bring the bamboo to market, it is transported from the jungle to Thein Zayat and then to Kyaiton, a twelve-hour journey. After the bamboo arrives in Kyaiton, it is resold at a rate of 150 Kyat per length of bamboo, a substantial increase even after transportation costs are taken into account. Estimates place the total number of bamboo posts harvested per year to be over one million. In most cases, the villagers comb tracts of land which have just been logged. By the time they have completed cutting the bamboo, this land is completely bare. (Capitalizing on Conflict: How Logging and Mining Contribute to Environmental Destruction in Burma: p. 35.

<http://www.earthrights.org/pubs/capitalizing.pdf>

*** There has been a steady stream of repairs, renovations and additions to the Sittoung mill and adjoining facilities over the last dozen years, including work done by Yunnan Chemicals I & E Corp for a plant (US\$6 million) to produce 5,000 tons of caustic soda a year, plus, as by-products, 1,000 tons of chlorine, 5,000 tons of hydrochloric acid, 2,000 tons of bleaching powder, and 33,000 tons of bleaching solution (WPD: 23-04-92); another renovation of the caustic soda and chlorine plant carried out by Kunming Electro-Chemical Plant of Yunnan (US\$ 1.2 million) designed to increase daily production from 9 to 15 tons daily (Xinhua: 23-12-98); major repairs to the chipper mill by China Chenhui Highway Engineering Machinery Works and China National Complete Plant I & E Wuhan Corp to boost production up to 60 tons of pulp per day; major repair to No 2 Boiler at the Water, Steam and Power Plant (NLM: 05-02-01); major repairs to the machinery in the caustic soda and chlorine factory installed by Kunming Electrochemical with plans announced to upgrade the mineral salt recycling factory, the pulp plant and the paper mill by China National Machinery and Equipment I & E Corp (Business Tank: 12-02). The latter, begun in May 2003, were still underway at the beginning of 2005. Work is currently underway to improve the water supply to the mill (NLM: 13-05-05);

CHINESE FIRM TO BUILD BAMBOO PULP MILL IN NORTHERN RAKHAING

Yangon: Thet Hlaing: Myanmar Times: 16-08-04 [▲Contents](#)

A new pulp factory will be established and an existing one expanded in Myanmar within two years under a bilateral cooperation plan with China, said a senior government official last week. The director-general of the Directorate of Industry under the Ministry of Industry 1, U Kyaw Myint, told Myanmar Times that work on the pulp factories in Rakhine State and Ayeyarwaddy Division will begin soon and will take at least one-and-a-half to two years to complete. The products from the factories will be sold to China, he said. The bilateral cooperation plan was made possible by the signing of a memorandum of understanding between the Ministry of Industry (1) and the China Metallurgical Construction (Group) Corporation during the goodwill visit of the Prime Minister, General Khin Nyunt, to China from July 11 to 17. U Kyaw Myint was one member of the delegation that made the journey at the invitation of China's Prime Minister, Mr Wen Jiabao.

U Kyaw Myint said the MOU calls for the establishment of a factory capable of producing 500 tonnes of pulp a day near the town of Ponnagyun, in Rakhine State, and the expansion of a factory in Thabaung township, Ayeyarwaddy Division, from a capacity of 200 to 500 tonnes a day. "The projects will begin within the next six months, but discussions about the details are still needed," he said. "The projects are expected to be constructed based on a 100 percent foreign direct investment scheme under the build, operate and transfer system [in which the factories will eventually be transferred to government control]. And the Myanmar government will provide infrastructure like roads, bridges and energy supply," U Kyaw Myint said.

He said experts from China Metallurgical Construction (Group) Corporation surveyed the Rakhine State site two times, finally choosing it from among four feasible locations in the region. According to the corporation's survey team, satellite photos revealed that the area is near one of the world's biggest commercially viable bamboo forests. The Rakhine factory will consume nearly 900,000 tonnes of bamboo a year, U Kyaw Myint said. The government will supply

electricity to the Ponnagyun factory using a turbine fueled by natural gas extracted from off the coast of Rakhine State.

U Kyaw Myint said the Ayeyarwaddy Division factory is slated to begin commercial production at 200 tonnes a year in September and will be expanded later. The majority of products from the factory will be sold to China under a buyback system. The rest will be used as raw material for a new factory that will produce 50 tonnes of high-quality paper a day for domestic use only, U Kyaw Myint said. He said more Chinese investors were interested in establishing pulp factories in Myanmar because there is a high demand for pulp among China's paper industry. "During our recent goodwill visit, many Chinese companies showed an interest in establishing pulp factories," he said.

He said representatives from these companies met with U Aung Thaung, the minister of the Ministry of Industry 1, to discuss investments. U Kyaw Myint said the ministry will be responsible for negotiating pulp factory projects with foreign investors. U Kyaw Myint also said the employment policy for the new factories, as well as for the existing 200-tonne-factory, calls for giving hiring priority to people who live nearby. The factories will benefit Myanmar by bringing in more foreign income, transferring technology to the country and creating more jobs, he said.

KENAF FACTORY IN MYANMAR A WORLD FIRST [△Contents](#)

Yangon: Myo Lwin: Myanmar Times: 25-08-03

Construction of the world's first kenaf pulp processing factory in Myanmar has been progressing regularly despite the initial delays in civil works, according to government officials. "Up to last week, we have struck nearly 100 piles but we still need to lay 200 more for the factory. Construction of roads have almost been finished," said officials from Myanma Jute Industries [Enterprise]. We are also expediting the importation of machines required for the factory from Singapore, they added.

MJI and a private company from Singapore agreed last year on the establishment of the US\$4 million factory in Oaktwin in Bago Division, for the production of paper pulp from kenaf fibre. Under the agreement reached with MJE and Skymoon Singapore, the latter would buy back all the paper pulp produced at the plant for which it will provide machinery and technology. [Officials] said the civil works were a bit late because of the delays in choosing the location for the factory which has a target of producing 5000 tonnes of paper pulp a year.

The factory would be the world's first to produce paper pulp using kenaf fibre as raw material, according to officials from MJI, which is also interested in producing value-added products such as high quality paper for printing bank notes. The pulp can also be mixed with materials such as bamboo for moulding into car dashboards and other products which have become popular because of its advantages in terms of low environmental impact.

The MJI officials said they have had enquiries for the paper pulp from Japan. Kenaf cultivation in Myanmar has increased to 30,000 acres this year from 10,000 acres two years ago. Kenaf is also grown in Malaysia where it has proved to be a source of foreign exchange through exports of animal feed made from the high protein leaves of the plant. Kenaf fruit is also used to make dyes and edible oil can be extracted from its seeds. Also known as brown Indian hemp, kenaf has long been grown in India and other warm countries like Myanmar for its brittle fibre, used in making coarse fabrics and rope. The plant may either be annual or perennial bearing prickly stems.

A ceremony to sign an agreement on pulp factory construction project took place at the meeting hall of the Ministry of Agriculture and Irrigation on Thiri Mingalar Lane of Kaba Aye Pagoda Road this morning. It was attended by Minister for Agriculture and Irrigation Maj-Gen Nyunt Tin, Indian Ambassador Mr Rajiv Kumar Bhatia, Singaporean Ambassador Mr Simon Tensing de Cruz, members of Board of Directors of the Sky Moon Singapore Pte Ltd and officials. Managing Director of Myanma Jute Enterprise under the ministry U Myint Maung and General Manager of the Sky Moon Singapore Pte Ltd Mr Jonathan signed the agreement and exchanged the documents. The factory will be constructed near Wati Village* in Ottwin Township, Bago Division, and it will produce 5,000 tons of pulp based on raw kenaf a year. (NLM: 07-09-02)

* An article in NLM on 23-05-03 locates the site of the proposed pulp factory “at Zibyuthaung jute field of Myanma Jute Enterprise near Banbwagon Village, Ottwin Township”. There have been no other reports about this project in the Myanmar press since then. The website of the Central Pulp & Paper Research Institute notes that the institute has a contract with Skymoon (Singapore) Pte Ltd to provide “complete technology know-how, basic engineering and training for setting up a high quality bleached pulp mill in Myanmar based [on] decorticated kenaf bast fibre as raw material”.

BETTER ACCESS TO RAW SUPPLIES NEEDED FOR CARDBOARD PRODUCTION

Yangon: Win Nyunt Lwin: Myanmar Times: 20-01-03 [▲Contents](#)

Private corrugated paper mills have the potential to fulfil Myanmar’s demand for 100 tons of cardboard a day if they can gain access to more raw materials, said industry experts in a series of interviews last week. Of the cardboard Myanmar consumes daily, 70 per cent is produced by private domestic corrugated paper factories centred in Yangon and Mandalay. Domestic production saves US\$5 million a year through import substitution.

The remaining 30 tons come from government factories and abroad, specifically, Malaysia, Indonesia, Thailand, South Korea, and China, said U Zaw Naing, a director of Yangon’s Pyan Hlwar paper mill, in an interview with the Myanmar Times last week. With a production capacity of 30 tons a day, Pyan Hlwar is the largest of the four paper mills in Yangon: Asia

World, New Century, and San Yee, and two in Mandalay: World and Aung, which dominate the cardboard production industry.

Two of the biggest problems facing the industry are erratic electricity and a dearth of pulp. Pyan Hlwar runs 10 tons below optimal production capacity because of irregular electricity, but, according to U Zaw Naing, "for the present situation, our production depends more on the recycled paper stock. If we can get as much as we want, we will be able to produce more."

The paper mills obtain their recycled paper from carton factory waste and from waste paper collection shops. Raw materials have more than doubled in price in 2001, leaping from 55,000 kyat a ton to 120,000 kyat a ton, before settling last year at an average of 110,00 kyat per ton.

One ton of domestically produced cardboard sells for an average of K230,000 a ton, depending on the price of recycled paper stock, whereas a ton of imported paper runs about K40,000 higher. As the economy expands and presentation becomes more important to consumers, U Zaw Naing said, "more packaging will be needed and the carton factories will use more of our paper."

Raw pulp, which produces better quality cardboard than recycled paper pulp, will be necessary in the future if Myanmar's industry is to keep its domestic market share and compete internationally. Ko Tun Tun, from the Aung paper mill in Mandalay, said in a telephone interview last week, "the more we can produce, the more we can provide as a substitute for imported packaging paper."

RECYCLED PAPER MARKET SLIPS AS MAGAZINE, BOOK CIRCULATION FALLS

Yangon: Soe Than Lynn: Myanmar Times: 24-06-02 [△Contents](#)

In Myanmar, paper consumption, including recycled paper, is over 100,000 tons a year and the use of recycled paper constitutes 70 per cent of total consumption. In the first week of June, the prices of recycled paper of various qualities fell by 10 per cent because circulation of some magazines, journals and books decreased, and the printing and binding of school exercise books and text books had almost finished. Before Thingyan Festival, the paper market mainly relies on the production of school exercise books, however a bonus was the appearance of many weekly journals focusing on international news; especially the September 11 attacks on the US.

But with the closure of many of these opportunistic publications and the sluggish market for exercise books, over 100 paper shops in Yangon are faced with a cool business environment. Of the thousand or so paper mills in Myanmar, many have scaled back or temporarily stopped production because the sale of paper at the shops is almost non-existent.

All recycled paper mills in Yangon rely on used exercise books and old newspapers from around the country. Paper trimmings from binding and printing houses are also used as raw materials for making recycled paper, but these sources cannot fill the needs of over 1000 paper mills in Yangon.

MYANMAR PRODUCES MORE PAPER PRODUCTS IN 2001 [△Contents](#)

Yangon: Xinhuanet: 01-02 -02

Myanmar produced 17,839 tons of all sorts of paper in the first ten months of 2001, 24.96 percent more than the same period of 2000, the latest data of the country's Central Statistical Organization show. During the period, Myanmar imported 59.79 million U.S. dollars worth of paper goods, an increase of 40.48 percent compared with the corresponding period of 2000, to meet its domestic demand. In 2000, the country produced 16,894 tons of paper and imported 48.1 million dollars worth of paper manufactures.

There are three state-run paper plants in Myanmar under the Ministry of Industry No.1 respectively located in the country's Mon state, Bago and Yangon divisions. They are producing stationery and print paper, exercise books, brown paper, packing paper and tissue paper.

A new newsprint paper factory in Mandalay division, set up in April 2001 with the assistance of the Tianjin Machinery Import and Export Corporation of China, will produce 7,500 tons of paper annually. Besides, Myanmar is also building a 200-ton-daily-capacity bleached bamboo pulp factory in Ayeyawaddy division's Thabaung township, buying machinery from China. When completed, the plant will produce 60,000 tons of the pulp yearly. Meanwhile, Myanmar plans to add more paper and pulp mills of 50 to 500 tons daily capacity in different states and divisions during the five-year-plan period from 2001-02 to 2005-06.

Myanmar's per capita consumption of paper is 2.6 kilograms and its total domestic paper demand in the present fiscal year of 2001-02 ending March is 117,600 tons.

PAPER INDUSTRY BOOST LOOMS AS PLANS AIRED FOR 13 MILLS [△Contents](#)

Yangon: Aung Kyaw Tha: Myanmar Times: 18-11-01

Production capacity in the paper-making industry is being sharply expanded, with plans being unveiled for 13 mills. Myanma Paper and Chemical Industries (MPCI) said the planned mills, to be built throughout the country, would produce newsprint as well as high-grade products such as art paper. MPCI managing director U Than Shwe said easy access to raw materials – bamboo or wood – would be a critical factor in determining whether all the projects went ahead.

U Than Shwe said the other two essential requirements for a paper mill were access to water and electricity. He said international tenders would be let for the mills. They included a contract signed last August with the China Metallurgy Construction Corporation for paper milling complex capable of producing 200 tons of pulp and 50 tons of newsprint a day. It will be built in the Ayeyarwaddy Division town of Thabaung, about 120 miles west of Yangon, and is expected to be finished in 30 months.

MPCI is also negotiating with a foreign company for a contract to extend a mill in the Bago Division town of Ye Ni, about 190 miles north of Yangon. The extension would enable the mill to double production to 130 tons a day, of which 80 tons would be brown packaging paper and 50 tons would be newsprint.

Tenders have been called for a pulp mill at Thabeikkyin in Mandalay Division capable of producing 200 tons a day and a complex at Monywa in Sagaing Division with a production capacity of 200 tons each of pulp and newsprint a day. Tenders have also been called to extend a paper mill at Sittaung in Mon State.

Paper consumption in Myanmar is 2.5 kilograms a person a year, compared to seven kilograms in Vietnam, 30 kilograms in Thailand, 100 kilograms in Malaysia and 200 kilograms in Japan and Western nations. U Than Shwe said he hoped paper consumption would reach at least that of Thailand within five years.

THREE OLDER STATE-OWNED PAPER MILLS BRIEFLY DESCRIBED [▲Contents](#)

Aung (Set Hmu): New Light of Myanmar: 28-10-01

There are nine factories under the Myanmar Paper and Chemical Industries of the Ministry of Industry-1. The factories are producing stationery and print paper, cement wrapping paper, packaging paper, tissue paper, pulp, caustic soda, bleaching chlorine gas, sulphuric acid, dyeing powder, enamel paint, other paint, matches, oxygen gas for hospital use, various kinds of gas for industrial use, batteries, liquid soap and soap powder.

Of the three existing paper plants in Myanmar . . . the largest is the No 1 Paper Plant . . . on a 926-acre plot on the east bank of the Sittoung River in Kyaikto Township. The plant is divided into pulp and paper division, mineral salt reproducing division, pulp factory extension division and chemical divisions. Pulp and paper manufacturing machines imported from the China National Machinery Import and Export Corporation of the PRC and the Kanematsu Goshu Co Ltd of Japan were installed at the plant. Production started in 1971. The initial investment for the plant (four production divisions) is K 452.196 million and US \$ 65.504 million. At present, the plant is producing stationery and print paper, exercise books and brown paper. The production target for fiscal 2001-2002 is 8,140 tons of stationery and print paper, 1,320 tons of exercise books and 440 tons of brown paper totalling 9,900 tons. The total staff strength of the plant is about 2,500. Bamboo, the main raw material requirement of the plant, is supplied from Yedashe, Toungoo and Shwekyin townships in Bago Division, and Kyaikto and Bilin townships in Mon State. Since December 1997, the SPDC government has assigned the Ministry of Forestry and the Ministry of Industry-1 the duty to jointly conserve and protect bamboo groves of the forest area of eastern Yedashe Township and the forest area of Shwekyin Township, to ensure uninterrupted supply of raw materials to the plant.

The Yeni No 2 Paper Plant, second largest of the three, is located on the Yangon-Mandalay Highway south of Yeni town in Yedashe Township. In the phase 1 of the factory project, machines were imported from the Security Printing AG Company of Germany and installed at

the plant to produce ten tons of matches and card paper per day. The first phase of the factory operation began in March 1979. In the second phase, machinery was imported from Mitsubishi Heavy Industries of Japan through the Kinsho Mataichi Corporation and installed at the plant to manufacture 25 tons of cement wrapping paper per day. Operation of the second phase began in 1981. At present, the Yeni No 2 Paper Plant is manufacturing matches and packing paper including cement wrapping paper. The plant has targeted to produce 1,500 tons of matches and 6,000 tons of packing paper in fiscal 2001-2002. The plant is employing over 1,000 staff. Bamboo, the main raw material, comes from forests in Yedashe, Lewe and Pyinmana townships. The plant is co-ordinating with the Ministry of Forestry to set up its own bamboo plantations. Plans are under way to plant 1,000 acres of bamboo groves beginning this year. The plant will put over 10,000 acres under bamboo.

The [Kanbe] paper plant is located on Kaba Aye Pagoda Road in Yankin Township, Yangon. It was originally set up as a private company [registered in] the Federal Republic of Germany under the name "Gazette Limited" in 1965. As the German company could not continue to run the plant, it was transferred to the Ministry of Industry-1 through the Industrial Department. The ministry imported more machinery from the German company for the plant in 1966. It began production of packing paper in 1968. In fiscal 1993-94, a paper machine capable of producing one ton a day was imported from the China Wuhan Corporation of the PRC. Since then, the plant has been manufacturing Dolphin brand tissue papers. In fiscal 2001-2002, the plant is targeted to produce 900 tons of packing paper and 230 tons of tissue paper. The paper production division is recycling waste paper and packaging material from offices and schools for manufacturing its products.

FIRST NEWSPRINT MILL IN MYANMAR OPENED IN PALEIK [▲Contents](#)

Mandalay: New Light of Myanmar: 15-04-01

Chairman of the SPDC Senior General Than Shwe and party proceeded to Paleik in Singaing Township by car and attended the opening ceremony of No 3 Paper Mill (Paleik) of the Myanmar Paper and Chemical Industries. . . . [After] General Than Shwe formally unveiled the signboard of the paper mill Commander Maj-Gen Ye Myint, Minister U Aung Thaung and Tianjin Machinery Import & Export Corporation (Group) President Mr Sun Jian Rong formally opened the mill. . . . At the hall of the mill, Minister U Aung Thaung explained that the mill is the very first one

to produce newsprint in Myanmar and 25 tons of import-quality newsprint per day will be produced by it. He also explained the area, preparatory measures, test-run employees strength, requirement of raw materials and others. . . . Managing Director of News and Periodicals Enterprise U Tin Kha explained matters on printing of newspapers in Yangon and Mandalay and the quality of newsprints in being utilized. . . . The paper mill was built with the aims of supplying import-substitute newsprint, contributing towards regional development and acquiring experience and techniques. The construction of the mill began in September 1999 and was completed in December 2000. The newsprint produced by the mill is now being experimentally used in printing Myanmar Alin and Kyemon dailies [in Mandalay].

-Mandalay: New Light of Myanmar: 01-11-01

Minister for Industry-1 U Aung Thaung arrived at No 3 Paper Factory of MPCFI in Paleik, Singaing Township and inspected the warehouse for finished products, rolling of papers with modern machines, warehouse for raw materials and categorizing of paper types, transportation of raw material to pulping machine, crushing of raw material and production of paper. He also inspected quality control and testing of quality of paper and finished newsprint for the dailies. At the briefing hall of the factory, the minister met with the officials and pointed out weaknesses and strength and gave instructions for future tasks.

KOREAN CARTON MAKER ATTRACTED BY CHEAP LABOUR POOL [△Contents](#)

Yangon: Myanmar Times: 19-02-01

Like many other foreign-owned factories operating in the low-cost manufacturing environment of the Hlaingthayar Industrial Zone on the outskirts of Yangon, Frank Han's Myanmar Yes cardboard box making company is flourishing. An outgrowth of what was originally a 100-per cent Korean-owned garment business, the company started its box making operations in February 1999. Today, its 200 local workers produce an average of 30,000 to 50,000 boxes of various proportions per day.

"We invested here in Myanmar for a couple of reasons," said Mr Han, Myanmar Yes' president. "Firstly, we were attracted by the country's profitable absence of import quota restrictions to the United States and Europe. "This is a very favourable point for business investors. In South Korea, and even in some poorer regional countries like Cambodia, what businesses can export is often severely restricted. The second, but by no means the least factor, was Myanmar's exceedingly inexpensive and abundant pool of unskilled labour, Mr Han explained. "This really is the main attraction of Myanmar. "Today in Indonesia, for example, labour costs are creeping over the US\$100 per month mark. In China, this figure is around US\$60-70." In Myanmar, factory level wages are still very low at around US\$30-35 per month. The choice of where to invest is becoming increasingly obvious for many South Korean foreign investors," he said.

Myanmar Yes today produces 10 different types of cardboard boxes of various widths, lengths and sizes. "Although our raw materials are imported, our prices are still very competitive with other factories' products because we have modern machines to cut our production costs. Other box-making factories in Myanmar use far more labour intensive production methods," said Mr Han. "Our national market share is now about 30%."

The company's major competitors include the Deco-land Company, San Yee Carton Box Factory, Leader Paper & Packaging Enterprises, Asia Cartons Ltd, and the Government's Ministry of Industry-1 Paper Factory in Thanlyin. The high quality of its boxes was Myanmar Yes' chief selling point, Mr Han explained. "We have three Korean-made printing machines

capable of producing six different coloured boxes. Other companies' printing quality is not as good as ours is, I think."

Raw materials-wise, the company has opted out of purchasing locally and instead imports from South Korea, Indonesia and Thailand. "When we started our factory, we bought raw materials from local companies but the quality of what they were selling us became increasingly poor. We can really only obtain the quality materials we need overseas," said Mr Han.

As for his business' prospects for 2001, Myanmar Yes' president was optimistic. "You can see more and more foreign-owned enterprises are opening up here at the Hlaingthayar Industrial Zone. This is just one of a number of small signs that things are improving in Myanmar."

PAPER MILL ENTREPRENEUR FACES TOUGH TIMES AHEAD [▲Contents](#)

Yangon: Myanmar Times: 11-12 -00

An entrepreneur with no technical background, whose determination and ingenuity inspired an industry from the late 1970s, is finding himself on shaky commercial ground, as foreign investments, machines and technology raise once familiar stakes to new, unreachable levels. U Nyein Pe set up his small paper factory with the help of a mechanic who had worked in the Government's Sittaung Paper Mill more than 30 years before. It was a process of trial and error as the duo tried to produce paper in a home-made mill, competing against outfits using established equipment. "At that time, there were about four or five people who wanted to set up paper mills of their own, but not one of them met with success because they could not afford to take the risk of testing their machines for a long time," U Nyein Pe said. Some entrepreneurs even lost their properties when their ventures failed.

"At first, we weren't successful either, but we didn't lose hope, we stuck to our aim and day by day we started to see that our undertaking was going to be a success." U Nyein Pe and his friend made parts for their machines via their own ingenuity and little else. After eight months of testing, they began operations in 1979. Watching their success, other entrepreneurs tried to follow in their footsteps. For those operators, with the requisite machinery locally made and tested, it was not such an uphill climb. "I helped set up new mills as a technician for some people who were interested in the business," a proud U Nyein Pe said, remembering the good times. "I have already set up over 100 paper mills all over the country, especially Mandalay, Mawlamyine, Pyay and Taunggyi. "Around 1985, I was given K 30,000 for my technical advice and K 180,000 for a small paper mill I helped set up."

His paper mill machine is now worth K 4 million and the operational costs are about K 200,000 annually, including the labour costs of six workers. But the cost of a machine varies in accordance with exchange rates, as iron plates, an essential part the mill, are imported from China. The raw material for the industry is used and recycled paper from the Saw Bwagyigon ward central collection point. In addition, waste products from bookshops, binding services and paper cutting services are gathered along with recycled boxes from import markets. "Now we have to buy raw materials for K60 a viss (K 38 a kilo) for low quality paper cuttings and K80 (K

50 a kilo) for better ones,” U Nyein said. Prior to the arrival of foreign investments here with opening of the economy from the early 1990s, the price was only K 15 a viss (K 9 a kilo)

When foreign businesses arrived they started paying K 70 per viss (K 44 a kilo) for the recyclables, sending prices skyrocketing. "Now, unlike previously, we sometimes have difficulties getting our raw materials," he said. The company's major customers are the book binders concentrated in downtown Yangon on 32nd Street and businesses which package washing powder, fish and garments. The paper sizes produced are demand driven but the most common product is 31" x 43" sheets at a cost of K 1,500 per 100 sheets. Over recent years there has been little demand for bigger sheets. U Nyein Pe's thick paper is much sought after in the local printing market and appears as hard covering on exercise books and school texts. On average, the price of this kind of paper is K 85 a viss (K 53 a kilo).

“Now our business is very stable,” the entrepreneur said. “But we have many competitors so our profit margin becomes very narrow as we have to compete in both quality and price. “Normally, we sell 1000 viss (1600kg) a month but the sales register as low as 350 viss (560kg) in the rainy season.”As to power supply, they have to use 15 hp boiler that is fueled by saw-dust for operating the paper dryer as the electrical power supply is not available enough for the entire mill but adequate for the motor. His mill’s power supply is divided between a 15 horsepower boiler, fuelled by saw-dust, which operates the paper dryer with electricity running the rest of the plant – most of the time. If the future exceeds his expectations, U Nyein Pe would like to move his industry to the Shwe Pauk Kan industrial zone. But there are other problems. “To be honest, our products are not good enough to be competitive with products produced using foreign machines,” he said.

“We need very much to improve our machines and seek foreign technology for our products to be on par with those of other countries. “We rely on our naked eye to guess the thickness of paper. We have no special equipment to get precise measurements of our finished products so we cannot gauge their quality in any detail. “Although rapid changes are taking place in technology in some parts of the world, we cannot discard our old machines because we don’t have the capital or know-how to replace them. “So I am planning to start running my business with a foreign machine. I won’t be able to buy a large one, only the smallest one from China which produces 3 tons of paper a day, but I don’t think that goal will be realised in the near future. “We can borrow money from the Government (Bank) for new investment, but the interest rate is a bit high for an unpromising business like ours.”



Figure 7: paper recycling in operation

EAST ASIAN TENDERS SOUGHT FOR NEW PAPER MILLS [△Contents](#)

Yangon: Myanmar Times: 24-07-00

The government sector alone in Myanmar is spending more than US\$2.6million yearly on paper imports and a solution for mending this hard currency spill has long been sought in country. As a part of its responsibility for deterring the paper import up to a certain degree Myanma Paper and Chemical Industries (MPCI) has substantiated a plan for the building of a paper mill near Mandalay with machinery supplied from a Chinese company. Recycled newsprint and pulp will be used as raw material in the plant which is expected to produce 25 tons daily. Current government daily consumption of newsprint is around 18 tons..

“Once the factory starts production, probably early next year, the government side at least will not need to import newsprint altogether,” said U Thein Win, planning director of MPCI.

“MPCI’s

plan is for a pulp mill near Tapyikkyin town in central Myanmar which will be capable of producing 200 tons of pulp per day,” said U Thein Win. “We are negotiating with Korean, Chinese and Japanese companies in this regard and hope things can be finalised by the end of this year.”

MPCI recently called bids for supplying the machinery for construction of a 25-ton per day capacity pulp mill near the existing Yeni plant in central Myanmar, which is currently producing 50 tons of pulp per day. “Possibly, we will give pulp instead of money to the machinery suppliers for that project,” U Thein Win said. “We expect a considerable number of foreign bidders for the project.”

The department is also planning to build 12 pulp, paper and chemical plants over the next few years. “We can export our pulp if these projects are successfully undertaken,” said U Thein Win. As for the use of chlorine for bleaching purpose is condemned internationally in fear of dioxin contamination, MPCI has contemplated a plan for the building of a hydrogen peroxide plant near Yangon, mainly for textile bleaching.

As a government enterprise MPCI is operating 9 factories throughout Myanmar including 3 paper mills and two oxygen and nitrogen plants as well as amatch and paints factory. Revenues

totaled K19 billion last year and the department netted more than K 363 million in profits during the last financial year. Another reason behind the MPCCI decision to give keen emphasis on producing paper at this stage is the greater use of it in the expanding print media world in country. “Print media will remain at the helm of the public communication no matter how the information technology has developed worldwide,” U Thein Win remarked.

PACKAGING INDUSTRY SQUEEZED BY FOREIGN COMPETITION [▲Contents](#)

Yangon: Myanmar Times: 26-06-00

The budding packaging industry in Myanmar has a long way to go for their products to remain competitive against imported cardboard boxes that enter the market with cheaper prices. Imported items are dominating the market, says U Kyaw Khin, a local businessman who makes cartons in the Hlaing Tha Yar Industrial Zone, 22 kms from the heart of the City.

Local industrialists are faced with big issues – they are able to extend their businesses but market forces are keeping demand low, with buyers naturally favouring the cheaper, imported product. Big prospective customers like London cigarettes and Myanmar beer do not buy cartons from local suppliers. In all fairness they want to, but their ever-conscious budgets are pointing them another way.

The major local manufacturers in the packaging industry in Yangon are Deco-land, Asia Cartons, Myanmar Yes and Leader Paper & Packaging. Imported items meanwhile are mainly coming from Singapore. U Kyaw Khin says an answer is to protect and support local manufacturers and he believes the Government can do many things like creating more favourable conditions for the local manufacturers to remain in business despite stiff competition from their foreign counterparts who produce the same items on economies of scale.

Capacity at packaging factories is still relatively small. The biggest in Yangon, for instance, can only make 50,000 boxes of various sizes per day. By comparison, factories in Singapore or Hong Kong could be producing several million boxes a day. There are many reasons why the locally-made product is highly priced, and so in some ways U Kyaw Khin has an argument to put forward despite a global philosophy of removing tariffs and Government protection as part of a new world order.

Most of the raw materials for packaging have to be imported. It is perhaps the main reason. And local manufacturers are not well positioned to have mass production lines because of limited market demand.

There is also room for improvement in infrastructures in industrial zones. Dealing with the situation by each manufacturer adds extra costs to production. It is normal practice for an industrial zone to provide it with efficient infrastructure and to have essential facilities installed before entrepreneurs are invited to invest there,” said a local scholar.

“Packaging is increasingly coming into play as an important role in the marketing of consumer products,” said a marketing manager from a local packaging firm. Attractive packs draw the attention of customers and sales volumes rise.

Factories are also in the habit of producing boxes or packaging only upon receipt of orders – they never make them in advance. The argument from factories, of course, is the various requirements of clients who want specialist printing and custom-made sizing. For those contemplating to set up a factory much of machinery comes chiefly from China with Chinese companies providing technology and training for local firms. “One of the favourable conditions is that packaging industry is not technologically complex and it requires fewer labourers, compared with a garment factory,” said a local manager.

Raw materials are available from both local suppliers and importers. “To produce quality cartons 70pc imported raw materials and 30pc local are the ideal ratio. Customer satisfaction is important as our products are mainly supplied to foreign customers like those who operate in the garment industry,” said U Kyaw Khin. He added that when much more local raw materials content is used, the aesthetic effect may not be as good.

Local packaging is generally inferior in terms of strength because the raw material emanates from recycled paper. On the plus side, to increase quality local factories import raw materials like paper and cardboard without duties. “It is very good for local industrialists,” said a manager at a local firm. “One of the serious matters for us to tackle with is that it sometimes takes much longer than we have expected for imported machinery spare parts or raw materials to arrive here, so have to keep a large inventory,” said an entrepreneur.

Industrialists have many fixed costs to bear which drag down their effectiveness. They eagerly wish that costs for leasing land and building a factory be cut down so that they will be in a better position to compete with their counterparts in some neighbouring countries. Conditions are now more favourable for an entrepreneur to engage in trade than to take up manufacturing business. Therefore, we earnestly hope that there will be more incentives from the government for more people to engage in manufacturing, the secondary sector of the economy, to help the country push forward markedly in the drive to bring about a modern and developed nation,” said the businessman.

“We take into account for such things as quality orientation, price competitiveness, mass production and service like timely production and delivery,” said U Kyaw Khin replying on how to sustain market share.

MYANMAR PAPER MILL OPENS IN DAGON MYOTHIT [▲Contents](#)

Yangon: New Light of Myanmar: 23-12-98

Myanmar Paper Mill of Asia World Industries Ltd opened at the corner of Muse and Haka streets at Industrial Zone 1 in Dagon Myothit (South) Township this evening. Secretary-I of the SPDC Lt-Gen Khin Nyunt unveiled the signboard. Also present were member of the SPDC, Cabinet

Ministers, the Mayor of Yangon, deputy ministers, officials of the SPDC Office, heads of department, Managing Director U Tun Myint Naing of AWIL and officials and guests. Deputy Minister for Construction U Tint Swe and U Tun Myint Naing formally opened it. U Tun Myint Naing reported on the construction of the mill, machines installed at the mill, the aim of the mill, production of finished goods from used paper, manufacturing of cardboard and plans to produce stationery and newsprint.

PULP AND PAPER INDUSTRY IN MYANMAR ▲ Contents

FAO Country Report: 1997: Information from the Myanmar Forestry Department

http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/003/W5693E/W5693E08.htm

The major types of fibrous raw material resources available for the pulp and paper industry are bamboos, tropical hardwoods and agriculture residues. Bamboo in Rakhine and Tanintharyi present huge potentials for pulp and paper industries. Kayin-wa (*Mellocanna bambusoides*) in Rakhine has an estimated growing stock of 21 million metric tons capable of producing around 830,000 tons of pulp annually while pure bamboo stands in Tanintharyi having a growing stock of 6 million tons could provide an annual pulp yield of 244,000 tons, if the bamboo forests are worked in a 10-year cutting cycle. Tropical hardwoods are another major resource for the pulp and paper industry. Typically, the tropical hardwood forests in Myanmar are made up of a large variety of species growing in mixture. Out of (300) species recorded only (30) species are extracted for timber production and the remaining species are available for the promotion of pulp and paper industry. Apart from bamboo and hardwood resources, there are some agriculture residues which are in hand as available raw materials for the establishment of small scale pulp and paper mills and cottage industries.

The Myanmar Paper and Chemical Industries (MPCI) is the main organization responsible for producing pulp and paper in the country. There are 5 pulp and paper mills, namely: the No.1 pulp and paper mill (Sittoung) with a capacity of 60 ton/day producing mixed pulp from bamboo and hardwood, No.2 mill (Yeni) producing 10 ton/day of paper with pulp from the No.1 mill and 30 ton/day of bamboo kraft sack paper, No.3 mill (Ma-U-bin) with a designed capacity of 6 ton/day of jute board from jutestick, the Wrapping Paper Mill (Kanbe) producing 3 ton/day of wrapping paper from waste paper, and the pulp and paper Pilot Plant (Hmawbi) producing toilet paper. In the private sector there are more than 300 small cottage paper factories using recycled waste paper with capacity ranging from ¼ to ½ ton/day.

The pulp and paper Industry in Myanmar is still in its infancy and has maintained a modest rate of development. Despite the huge potential of resources the present production of pulp, paper and paperboard has not reached the demand of the country and considerable tonnage of different grades of paper and paperboard still have to be imported resulting in considerable drainage of FE, for example, US\$ 7.9 million in 1994-95. The projection of paper requirement of major grades are shown in appendix(III). MPCI, however, has gained considerable experience in producing pulp and paper from bamboo and tropical hardwoods supported by research and development works of the Pulp and Paper Research Department at the Myanmar Scientific and Technological Research Department (MSTRD). A memorandum of understanding between the Government of

Myanmar and Grasim Industries Limited of India for the establishment of a Rayon grade pulp plant was entered into in 1994 and the feasibility of establishing such a plant is now under study in the Rakhine State.

BAMBOO STANDS SUITABLE FOR PULP INDUSTRY IN MYANMAR ▲ Contents

Bamboos of Myanmar - Nyan Htun

Ministry of Forestry, Forest Research Institute. Yezin, Myanmar: circa 1997

<http://www.ipgri.cgiar.org/publications/HTMLPublications/572/ch28.htm>

Bamboos usually grow mixed with other species and they form the understorey in high forests. An almost pure bamboo forest of *Melocanna baccifera*, is found in the Arakan Yoma crossing from Patheingyi and Pyaw into Rakhine State, mixed with other species like *Dendrocalamus strictus*, *Bambusa longispiculata* and *Thyrsostachys oliveri* scattered over the range. Studies were made in 3 areas where a great quantity of bamboo was found growing: (1) Bago Yoma Area (a) Eastern part with bamboo area - 5969.95 km²; (b) Western part with bamboo area - 2224.8 km²; (2) Rakhine Yoma Area with bamboo area - 5059.27 km²; (3) Tanintharyee Division with bamboo area - 1872.57 km²

The species studied are *Bambusa polymorpha* and *Cephalostachyum pergracile* for areas (1) and (3) where they are abundant and *Melocanna baccifera* for area (2). The main objective of studies was for extraction of bamboo for paper mill. The species selected are abundantly growing in those areas and also because of their usefulness in making paper pulp. The studies included counting of number of culms per clump, number of clumps per area and the ages of clump

Because of the different ages of culms contained within clump for *B. polymorpha* and *C. pergracile* and number of bamboo per unit area for *M. baccifera*, the following cycles are suggested by forest department. (1) 7 to 15 year cycle - *B. polymorpha* and *C. pergracile* (2) 3 to 5 year cycle - *M. baccifera*. The suggested felling cycles were calculated depending on amount of output of bamboo/ ton in certain areas. e.g. Rakhine area - 112 000 tons (with 15 year cycle) Tanintharyee - 42 998 tons (with 7 year cycle) Taungoo - 13 392 tons (with 7 year cycle)



Figure 8: Bamboo stand in southeast Myanmar

Bamboo Resources of Myanmar

Asia-Pacific Forestry Sector Outlook Study: Country Report - Union of Myanmar

FAO Working Paper Series: No APFSOS/WP/08: Forest Department: Ministry of Forestry,

Myanmar June 1997: Section 6.4

http://www.fao.org/documents/show_cdr.asp?url_file=//DOCREP/003/W5693E/W5693E00.htm

Bamboo grows abundantly throughout the country either mixed with tree species or in pure stands. Pure stands of Kayin-wa (*Mellocanna bambusoides*) stretch over an area of about 8,000 km² on the Rakhine mountain range with an estimated growing stock of 21 million metric tons. Tanintharyi Division also contains pure stands of wa-ya (*Oxytenanthera nigrociliata*) over an area of some 1,800 km² with an estimated growing stock of 6 million tons. The bamboos in the Bago Division are of mixed-forest type consisting of a number of different species of which kyathaung-wa (*Bambusa polymorpha*), Tin-wa (*Cephalostachym pergraule*) and Myin-wa (*Dendrocalamus strictus*) are commercially important. Of the 96 known species of bamboo only about 13 species are considered commercially important so far.

Bamboos grow abundantly throughout the country either mixed with tree species or in pure stands. Pure stands of Kayin wa (*Mellocanna bambusoides*) stretch over an area of about 8,000 km² in Rakhine State in the west. Considerable sizes of pure bamboo stands are also present in Tanintharyi Division in the southern most stretch of the country. The Kayin wa in Rakhine has an estimated growing stock of 21.34 million metric tons capable of producing around 830,000 metric tons of pulp annually, while pure bamboo stands in Tanintharyi having a growing stock of about 6.09 million metric tons could provide an annual pulp yield of 247,904 metric tons, if the bamboo forests are managed under a cutting cycle of 10 years.

http://www.myanmar.com/Ministry/Forest/Forest_resource_base.html