

The Impact of Industrial Policy and Economic Recession on Primary Pulp and Paper Production in Nigeria

Ogunwusi A. A. H. D. Ibrahim
Raw Materials Research and Development Council, Abuja

Abstract

The Nigeria Paper Industry has undergone several travails. The import substitution policy of the early 1960's (1962 – 1968) encouraged the establishment of three pulp and paper mills in the country. Two of the mills, the Nigeria Paper mill, Jebba and the Nigerian Newsprint Manufacturing Company (NNMC), Oku-Iboku were completed and performed well in the 1980's to 1990's. However, the third mill, the Iwopin Pulp and Paper Company, Iwopin was 85% completed before work stopped on it in the 1990's as a result of policy implementation and inconsistency problems. The recession of the 1990's worsen the situation in the industry. By 1996, the mills stopped production as a result of the negative effects the of import substitution policy. The policy enthroned a regime of dependence on importation of raw materials, equipment, spare parts and skilled manpower. The recession that occurs between 2010 to 2016 as a result of the reduction in the price of commodities and oil worsen the situation in the primary pulp and paper manufacturing sector due to inadequate availability foreign exchange to fund importation. Nevertheless, the period saw the establishment of three new recycling plants that depend solely on waste brown paper. The new mills a total of more than 1 million tons per annum has led to increase in local capacity for the manufacturing of corrugated liners and packaging papers in Nigeria.

Keywords: Recession, Pulp and Paper, Policy, Import substitution.

1.0 Introduction

Nigeria has always been an agrarian country. However, the need to industrialise and reduce foreign exchange expenditure on products that the country has comparative advantage to produce led to introduction of a number of industrial policies such as Import Substitution, Structural Adjustment Programme (SAP), etc., into the polity. Most of these policies are skewed towards importation of machinery, spare parts, and skilled manpower, etc (Aribisala, 1993). This is fuelled by availability of petro dollars from 1970's to the mid 1990's (Aribisala, 1993). However, the fall in the price of oil and other agricultural commodities necessitated the introduction of changes into the economic fabric of the country. The crude oil which sold for about \$140 per barrel in 2013, sell for less than \$40 in July, 2016 (Ukoko, 2015). At the same time, the demand for Nigeria's oil has continued to dwindle as United States of America and some European countries which were the traditional customers have discovered oil or other alternatives in their domains (Ukoko, 2015). This led to huge shortfall in government revenue and reduced the intervention of government in infrastructural development and provision of adequate and sustainable quantities of foreign exchange for importation of industrial inputs. This study examined the impact of industrial policies and economic recession on primary pulp and paper production in Nigeria. The study is embarked on in order isolate policy options required for sustainable development of the subsector.

2.0 Historical Perspective of the Influence Depression on Global Pulp and Paper Development

Pulp and paper production has been an integral part of industrial development since paper was invented in China by Ts'ai Lun in AD 105 (Wikipedia, 2014). Since then, the growth of pulp and paper technology has been phenomenal as major developments have taken place since the discovery of paper. These include the development of the first continuous wet paper machine in 1798, the deinking method discovered in 1801, the debut of the first paper machine in 1807 and the patenting of the drying cylinder in 1820 (Lamberg *et al.*, 2012). The first kraft process debuted in 1865 (Ragauskas, 2014) and since then a lot of other developments took place in the industry. Some of these include the integration of the kraft pulping and bleaching process, commercial recovery of waste chemicals, development of continuous digesters and secondary headboxes. From 1950 to 2000, new developments such as twine width machines, composite felts, high yielding pulping methods commonly referred to Z, D, P were discovered and commercialised, although the improvement remain continuous (Ogunwusi and Ibrahim, 2014). Despite these however, the growth in the pulp and paper industry globally has also experienced a number of downturns due to various sessions of global depression (Couture and MacDonald, 2016). In Canada, the largest decline in forestry output on record occurred during the start of the great depression. Between 1929 and 1932, lumber production fell by 61.6% and pulp production by 33.3% (Couture and Macdonald, 2016). Also, the oil shock of 1973 was also accompanied by sharp declines in production volumes. Between 1973 and 1975, lumber production decreased by 25.3% and pulp production by 18.3%. The recession of 1980's and 1990's also brought about declines. Lumber production declined by 15.2% between 1980 and 1982 and by 12.7% between 1989 and 1991. Pulp production during the period also decreased by 14.4 and 2.5%.

During the great depression of 1930's, paper companies also recognised opportunities inherent in new products and resources development. Use of southern pine as pulpwood began in the late 1980's (Casey, 1980). Further profitability was realised through improvements in brightness, colour variety, strength and uniformity of paper products (Lamberg *et al.*). These advances were essentially tied to the improvement of the fourdrinier machine. Paper manufacturers found in the great depression, a strategy that greatly aided them in post war era. This include the sustained creation of new product lines. Process innovation in paper production from 1920 to 1940 focussed on increases in machine speeds, achievement of continuous processing and broadening the number of species that could be used for pulping. In general, the number of patents granted in paper manufacturing was quite high during the period.

Apart from the period of the great depression, the worldwide economic crises of 2008 – 2015 also affected paper production in a number of economies. For instance, China's economy grew by 6.9% in 2015 compared with 7.3% in 2014. This prompted a sharp slowdown in the demand for most industrial commodities, which led to significant oversupply across many sectors and a period of depressed pricing. The Chinese paper industry was not immuned to the economic slowdown with demand growth slowing to just 6% and net export of unconverted paper and board falling for the first time since the great depression (Landsdel, 2011). This in turn reduced capacity utilisation with the nation's paper and board sector operating at just 79% of the 2014 capacity utilisation (Landsdel, 2011). Likewise the US recession of 2006 to 2009 and the collapse of the US housing market heralded a period of reduced global demand which significantly affected Canadian forestry production. Lumber and pulp output declined sharply. Between 2006 and 2009, lumber production in Canada fell from 81.2 million m³ to 45.5 million m³; a decline of 44%. Pulp production also decreased from 23.4 million tons in 2006, to 17.1 million tons in 2009, a decline of 26.9% (Couture and Macdonald, 2016).

Primary pulp and paper production have a recent history in Nigeria. Nevertheless, despite the efforts of the national planners at making adequate preparation for local production of a variety of paper products in the 60's and 70's, the plans were stemmed by a number of factors. Among these are high dependence on imported long fibre pulp and chemicals coupled with inadequate availability of foreign exchange in the oil glut era of the 1990's (Ogunwusi, 2012; Makinde, 2004; Onwualu, 2010 and Ogunwusi, 2010 and 2013). Since then, the paper industry in the country has undergone a number of travails which include under capacity utilisation and abandonment before completion and privatisation.

3.0 Industrial Development Policies and Paper Production in Nigeria

Industrial policy has been defined as emphasising various aspects of state intervention in support of industrialisation. Reich (1982) defined industrial policy as the set of government actions designed to support industries that have major export potential and job creation capacity, as well as the potential industrial action designed to target specific sectors to increase their productivity and their relative importance in the manufacturing sector. Likewise, Amsdem (1989), Chang (2002) and Lin and Chang (2009) defined industrial policy as a guide to government intervention to selectively promote certain manufacturing sectors with the aim of encouraging a country to defy its comparative advantage and develop its manufacturing sector. Johnson (1982) define industrial policy in a narrow sense as government activities that aim to support the development of certain industries in a national economy to maintain international competitiveness while Chang (1994), described industrial policy as government action supporting the generation of production and technological capacity in industries considered strategic for national development.

Industrialisation has always been a major objective of development strategy in Nigeria. Through this, Nigeria hopes to achieve higher economic growth and to eventually attain a developed nation status. In the 1960's, government maintained the principle of exporting primary products that are demanded in the international market. This is followed by oil exploration and exploitation for export, optimisation of agricultural production and development of light industries (Aribisala, 1993).

To achieve the status of an industrialised nation, Nigeria has tinkered with different industrial policies. This varies from import substitution of the 1960's to indigenisation policy initiated in 1972. Others include the Structural Adjustment Programme enthroned in 1986, Trade and Financial Liberation Policy of 1989, the creation of Bank of Industry in 2000 and the Small and Medium Industries Equity Investment Scheme (SMIEIS), in 2000.

The import substitution strategy was the first industrial policy enthroned by the Federal Government immediately after independence. The policy aimed at reducing the burden on the exchange rate through the establishment of light industries. Among the objectives of the policy were to lessen overdependence on imported goods, save foreign exchange and create tempo for industrialisation through the domestication of imported technology. Others include to empower the local businessmen, and create employment opportunities through the industrial sector (Nyo, 2014). Under the import substitution policy, the establishment of three pulp and paper mills were initiated in the 1960's to 1970's. These include the Nigeria Paper Mills, Jebba, the Nigerian Newsprint Manufacturing Company and the Iwopin Pulp and Paper Mill, Iwopin, Ogun State. The mills were specifically structured to promote local paper production, exportation of paper products for foreign exchange earnings and to

reduce foreign exchange expenditure on paper importation. Duru (2012) however, noted that Nigeria has not been able to make appreciable progress in this directions due to policy failure. These failures emerge and re-emerge from policy formulations, implementation and lack of continuation. The pulp and paper mills established through this policy have been experiencing tottering problems since the implementation of the policy. The status of the primary pulp and paper mills in Nigeria are subsequently discussed.

4.0 Status of the Primary Pulp and Paper in Nigeria

Like most of the industries set up in the country in the 60's, the Nigeria paper industry was planned in a grandiose manner (Ogunwusi, 1996a, 1996b). Initial plan of government was to promote optimal production of pulp and relevant grades of paper locally by the paper manufacturers established within the sector. Thus, the first National Development Plan (1962 – 68), gave prominent attention to the establishment of three pulp and paper mills with high dependence on imported raw materials, expertise, machinery and spare parts (Aribisala, 1993). These include the Nigeria Paper Mill, Jebba; Nigeria Newsprint Manufacturing Company, Oku-Iboku; and the Iwopin Pulp and Paper Company Limited Iwopin.

The Nigeria Paper Mill, Jebba, commenced production in 1969 with an initial production capacity of 12,000 tons of paper per annum. By 1985, the mill had undergone considerable expansion with the production capacity raised to 65,000 tons per annum of kraft paper, liner and chipboards, sack kraft, fluting media and corrugated cartons (Ogunwusi, 2013 and 2010).

The paper machines and their production capacities are shown in Table 1. Table 2 shows production history of the mill from 1985 – 1996. The short fibre raw materials were obtained from indigenous wood species growing at Oke Awon Forest Reserve near Jebba (Latitude 9.3°N, Longitude 4.46°E), while long fibre pulp components were imported. From 1996 to 2006, the company was completely out of production. During the period, the deficit turnover to the economy was 30.25 billion naira (Ogunwusi and Onwualu, 2013). Among the reasons advanced for this dismal performance were malfunctioning of equipment and machinery (Makinde, 2004). Expenditure on machinery, equipment maintenance and spare parts were ₦943.0m, ₦92.6m and ₦61.18m respectively in 1994 with foreign supply funds accounting for 90% of the total investment (CBN, 1994). The official rate of exchange as of then was ₦22 to 1US\$.

In 2006, the Nigeria Paper Mill was privatized by the Bureau for Public Enterprises. The Company was sold to MINL Ltd, an Indian company. The mill has been rehabilitated and the current production capacity is 240,000 tons per annum of 60 – 150gsm kraft paper for wrapping and packaging and 180 – 250gsm kraft paper for paper tube production using only recycled waste paper.

The Iwopin Pulp and paper Company Limited, (IPPCL), Iwopin, Ogun State, was planned to produce fully bleached pulp for production of 68,000 tons of various grades of writing, printing and cultural papers on annual basis. With initial dependence on imported long fibre pulp, the mill was planned to produce long fibre pulp from *Pinus species* established in plantations in different locations in the country. Since initiation, IPPC has been experiencing tottering problems occasioned by equipment installation delays (Annon, 2002). On March 3, 2014, the government handed over the company to Buelah Technical Services Company limited (BETCO) the core investor with the overriding statement that the government will continue with its monitoring responsibilities as enshrined in the shares Sales and Purchase Agreement (SPA) to ensure that the investors comply with the spirit and letter of the commitments of the SPA, and, implementation of the Post Acquisition Business Plan (PAP) (Ogunwusi and Onwualu, 2014). However, till the mid of 2016, no significant development has taken place in the mill.

Nigeria Newsprint Manufacturing Company (NNMC), Oku-Iboku, a newsprint mill using the chemical-mechanical process has an installed capacity of 100,000 tons of newsprint per annum. Due to the establishment of the mill, import of newsprint reduced drastically to 17.5% in 1986, 12.5% in 1987 and faded out in 1988 (CBN, 1994). The Nigerian Newsprint Manufacturing Company, was incorporated in 1975 as a private liability company. It was the only newsprint manufacturing company in West and Central African region (Ogunwusi and Onwualu, 2014). During the eight years of its operation (1986-1994), the mill produced a total of 163,684 tons of newsprint as against expected 800,000 tons. Prior to the shutdown in 1994, NNMC exported newsprint to USA, Cameroon, Germany, Togo, Ghana and Zimbabwe. However, production stopped in 1993 and the status had remained the same due to scarcity of fund to refurbish the equipment and to purchase raw materials (Makinde, 2004). In 2008, Negris Limited acquired the company and renamed it OKIPP Limited. Rehabilitation work started in 2009, and as at today, Negris is still working towards putting in place the finance required to rehabilitate the building and bring the assets back to full use (Ogunwusi and Onwualu, 2014). Now that the Direct Foreign Investment required in Africa are being directed elsewhere (Mshana, 2009), there is need for intensification of efforts or adoption of alternative approach to fund the rehabilitation of the mill. So far, the new owners have mobilized the equipment manufacturers and other relevant technical teams to the site in order to plan for replacement of obsolete equipment. The major rehabilitation work that has taken place at the mill include forestry and nursery development works, a 20 year natural gas supply agreement with Septa Energy located in Calabar and change of electrical facilities from

analogue to digital systems (Ogunwusi and Onwualu, 2014).

5.0 Pulp and Paper Production Capacities in Nigeria 2009 – 2016

According to Ogunwusi (2014), as a result of the various problems militating against optimal operation of the pulp and paper mills, the performance of the paper industry in the country has been fluctuating. Currently, no virgin pulp has been produced by the industry from 2009 till today as none of the three primary mills are carrying out any significant pulping exercise. Capacity utilization in the intergrated pulp and paper mills varied from 4.65% in 2009 to 10.21% in 2016. This is as a result of recycling of waste papers. Also, capacity utilization for pulping chemicals was nil within the same period. The toilet role producers use substantial quantities of recycled fibres. As the primary paper manufacturers form the bedrock of the pulp and paper industry, the prolonged shut down of the mills have devastating and demoralizing effect on the sector (RMRDC, 2016). The raw materials, such as *Gmelina*, local pines and bamboo have been abandoned. Particularly worrisome is the fact that other subsectors which rely solely on this subsector for their raw materials had no option but to import their requirements.

The performance of the light/heavy packaging subsectors was better within the period as new recycling paper mills producing packaging materials were being established. For instance, three mills producing packaging materials were established and they depended solely on recycled brown waste papers. The printing, publishing and stationery subsectors use chemicals, industrial alcohol, ink, caustic soda, acid, etc., which were mostly imported. Unfortunately, the high foreign exchange requirement caused by continuous depreciation of the naira and economic recession of the period made this option impracticable. Thus, only big players could afford to remain in production while some of the fledging industries either crossed over to other sectors or folded up (Makinde, 2004).

In the printing and publishing subsectors, there was a general increase in the production of documents while booklet type products relatively decreased in production. Production of cards and labels also increased from 2009 – 2016. However, given the zero capacity utilization in the primary pulp and paper manufacturing subsector, this performance was sustained through importation of the critical raw materials which is unhealthy for the economy. The significant development in this subsector is due to the sizeable increase in number of desktop publishers and small-scale printers with staff strength of between 5 – 10 persons (RMRDC, 2006).

6.0 Effects of Recession on the Nigerian Economy

The Nigerian economy nosedived between 2014 to 2016. The major problem is caused by the highly significant reduction in the price of the crude oil, which is Nigeria's major foreign exchange earner. The price of crude oil fell drastically from 120 USD per barrel in 2015 to as low as 30 USD per barrel in 2016. This seriously affected the economy and led to stagnation in development plans and the availability of foreign exchange for procurement of industrial inputs. Purchasing Managers Index (PMI) of April 2016 revealed sluggish growth for the economy. According to CBN (2016), the PMI of the manufacturing sector dropped to 43.79% in April 2016 compared to 45.9% in the month. The PMI index for the period shows that business activity, production level, employment and raw materials inventories declined at a faster rate while supply delivery time was improving at a faster rate. One of the manufacturing subsectors that decline is the production of paper products (CBN, 2016). Another major adverse effect of the depression is reduction in the external demand for agricultural and minerals raw materials leading to the fall in the prices of most of the products since 2008 (Mshana, 2009). The fall in prices has wiped out some of the gains made previously in development. According to the World Bank, inflow of private capitals meant for Africa have disappeared after rising from USD 30 billion 2002 to USD 53 billion in 2007, causing projects to be cancelled, delayed or postponed (Mshana, 2009). This is one of the major problems hindering progress of the rehabilitation of the three integrated pulp and paper mills.

6.1 Impact of Recession on Primary Pulp and Paper Production in Nigeria 2010 – 2016

Table 3 shows the import (CIF) pulp of wood and other fibrous cellulosic mat, waste, etc in Nigeria between 2010 to 2015. From the table, it can be seen that the importation of pulp and other cellulosic materials fluctuates within the period under review. In 2010, 25,018,508kg of wood pulp were imported. This reduced to 20,413,048kg in 2011, and rose again to 25,080,770kg in 2015. This type of fluctuating statistics characterised importation of required raw materials in this sector. This is mainly due to scarcity of foreign exchange and low capacity utilisation in most of the mills. This therefore necessitate that government should devise plans through necessary economic instruments to promote rehabilitation of the mills. It is also imperative that adequate monitoring and evaluation of activities in the pulp and paper sector should be embarked on to ensure adherence of new owners of the privatised paper mills to laid down procedures in the privatisation agreement.

A major impediment presently to successful and sustainable development of this sector is the absence of virgin fibre production. Thus, the country depends entirely on the importation of writing and printing grades of paper. As a result, Nigeria expends approximate 50 billion naira annually on paper importation while the cost of non-performance of the privatised mills is increasing annually. The cost implication of non-performance of the

NPM, Jebba, in 2008, cost the economy 7.8 billion naira (Table 4) (Ogunwusi and Onwualu, 2014). This cost remained the same in 2007 and 2008. It only reduced to 6.85 billion in 2009 resulting in a 4 year (2006 – 2009) deficit turnover of 30.25 billion naira. The cost of non-performance by NNMC, Oku-Iboku, to the economy on annual basis from 2006 to 2009 was 18.76 billion naira. Within the four years under consideration, the deficit turnover to the economy amounted to 74.8 billion naira (Table 4). In the case of IPPCL, Iwopin, the cost of non-production on annual basis from 2006 to 2009 was 48 billion naira. The total cost of non-performance by all the mills to the economy within the four years period was 153.05 billion naira Ogunwusi and Onwualu (2014). Considering the fact that the cost of paper is increasing daily in the global market as a result of climate change problems, it is expected that the cost of non-performance will reach approximately 180 billion naira in 2015 (Ogunwusi, 2014).

6.2 Economic Recession and Developments in the Primary Pulp and Paper Subsector 2010 – 2016

The response of investors to economic depression in the primary paper manufacturers subsectors has been unprecedented. Within the period under discussion, three pulp and paper mills manufacturing brown paper sprang up. The paper mills and their facilities are discussed below.

6.2.1 Dahua Paper Company Nigeria Ltd

Dahua Paper Company Ltd is a new paper mill located within Obasanjo Farms in Obada- Oko, Sango, Ogun State. Installation of equipment is completed and the test-run was done on 15th June, 2016. The mill was established for the production of kraft paper from recycled waste paper. Commercial production is expected to commence in August, 2016. The mills capacity is 250 – 300 tons per day.

6.2.2 Specialty Pulp and Paper Ltd

Specialty Pulp and Paper Ltd is a new pulp and paper mill located at Ibefun village, Ogun State. All the equipment are already on ground. However, installation of equipment is still on going and expected to be completed by the end of July. Mill is expected to commence production by first week of August, 2016. The major features of the privately owned mills include

- ✓ Digitalized mill recycling waste paper for the production of kraft paper (2 layers bond liner).
- ✓ Installation of machine with capacity of about 200 tons/day of kraft paper. This culminates to about 550,000 tons/annum.
- ✓ Paper quality is set at 250gsm and above (depending on market demand)
- ✓ Installation of a Steam Turbine (3.6MWe) and Boiler for energy production
- ✓ Penning of an agreement with a gas Company for gas supply for the boiler.

6.2.3 New Global Paper Company

New Global Paper Company, Sagamu, Ogun State has also been established for recycling waste paper. The mill has commenced operation with an installed capacity of 60 tons/day. This translates to 7,500 – 12,500 tons/annum. The products include kraft liner board (text liner) and fluting paper. Product quality is from 110 to 210gsm.

6.2.4 Tempo Paper and Packaging Ltd

Tempo Paper and Packaging Ltd., located within Obasanjo Farms in Obada-Oko, Sango, Ogun State is a converter. The company specializes in converting paper to cartons for packaging. The installed capacity of the plant 250 – 300 tons per day.

7.0 Discussion

The paper industry in Nigeria has passed through several travails. The activities in the waste paper recycling sector is increasing while national demand for bond paper, printing and duplicating papers, etc. is met at 100% level through importation. Nevertheless, the country has increased its capacity for the kraft/brown paper production for use in the packaging sub-sector. The mills, however, rely only on waste paper which reduces the strength of the products after several recycling processes. Thus the need for incorporation of virgin fibre in the production process is imperative to ensure higher quality products. If this can be done, it is recommended that the request of the packaging paper producers be acceded to. The requests include:

- ✓ Increased Tariff on packaging paper importation
- ✓ Reduced duty on raw materials for the sector (chemicals and long fibre pulp)
- ✓ Ban on export of waste paper
- ✓ Ban on multiple taxation, amongst others.

The general area where government has to intervene immediately through various policy options are:

- Promotion of investment in bond paper production. Presently, more than 40 billion naira per annum is expended on the importation of bond paper only.
- The issue of long fibre plant species should be critically looked into. Laboratory studies in Nigeria have shown a number of indigenous plants with long fibre characteristics. These include *Sterculia setigera* and *Sterculia oblonga*. Laboratory studies on these plant species should be scaled to pilot studies to highlight the optimal conditions for their commercial conversion to long fibre pulp.

- The petrochemical sector should be developed. This will promote production of pulping chemicals.

8.0 Conclusion

The capacity for the production of packaging paper has increased tremendously in Nigeria despite the present economic recession. This is due to waste paper recycling mills springing up. However, there is no pulping activity from primary raw materials. There is need for strategic development of this sector in view of its importance. This should be done through the institution of a deliberate policy to encourage production of bond papers locally.

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Table 1: Capacities of Paper Machines at NPM

Machine		Capacity before 2006 (MT/Annum)	Capacity after 2006 (MT/Annum)
Machine	1	12,000	40,000
Machine	2	26,500	85,000
Machine	3	26,500	85,000
Total		65,000	240,000

Source: NPM (2010)

Table 2: History of Paper Production at Nigeria Paper Mill Ltd. (NPM), Jebba (1985 – 1996)

Year	Installed Capacity (MT)	Actual Production
1985	65,000	40,480
1986	65,000	*42,960
1987	65,000	27,749
1988	65,000	29,365
1989	65,000	16,509
1990	65,000	12,498
1991	65,000	7,707
1992	65,000	7,747
1993	65,000	2,314
1994	65,000	2,720
1995	65,000	2,884
1996	65,000	188

Source: NPM (2010)

*Highest yearly output.

Table 3: Import (cif) pulp of wood/of other fibrous cellulosic mat; waste etc, 2010-2015

HS CODE	COMMODITY DESCRIPTION (SITC)	2010		2011		2012		2013		2014		2015	
		Qty(Kg)	VALUE (N)	Qty(Kg)	VALUE (N)	Qty(Kg)	VALUE (N)	Qty(Kg)	VALUE (N)	Qty(Kg)	VALUE (N)	Qty(Kg)	VALUE (N)
47	Pulp of wood/of other fibrous cellulosic mat; waste etc	25,018,508	2,689,681,827	20,413,048	3,469,086,054	21,247,155	2,917,570,876	21,274,254	3,946,675,340	30,286,956	4,795,740,748	25,080,770	5,184,520,321
4703	Chemical wood pulp, soda/sulphate, oth. Than dissolving	22,006,634	2,430,892,082	12,499,524	2,767,233,218	13,121,832	2,368,194,078	12,397,025	2,095,886,515	19,645,947	2,818,067,781	18,317,566	2,993,983,180
470310000	unbleached coniferous chemical wood pulp, soda/sulphate, nes	18,364,276	564,320,264	2,938,113	916,749,831	3,213,191	391,908,033	1,547,389	231,271,766	5,438,505	766,021,716	6,038,642	930,530,441
4703190000	unbleached non-conif. chemical wood pulp, soda/sulphate, nes	1,500	400,059	777,109	114,473,404	248,929	91,503,646	255,350	34,511,155	31,024	8,111,235	-	-
4703210000	semi-bleached/bleached conif. chemical wood pulp, soda... nes	3,501,828	1,837,880,726	8,673,302	1,721,071,726	9,659,712	1,884,782,399	9,944,140	1,752,323,894	14,032,721	2,016,946,798	11,520,363	1,959,076,680
4703290000	semi- or bleached non-conif. chemical wood pulp, soda..., nes	139,030	28,291,033	111,000	14,938,257	-	-	650,146	77,779,700	143,697	26,988,032	758,561	104,376,059