# Scoping Study on Chinese Relations with Sudan*

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## 1. Introduction:

Sudan established diplomatic relationship with China in 1959. Since then the relationship with China has developed, based on such principles as mutual non-interference, mutual respect for territorial integrity and sovereignty and mutual benefits and equality. Sudan diplomatic support for China was evident in the issue of Taiwan and the One China policy, and in working with other African countries in China's accession to the UN in 1971. China in her part continued to support Sudan, as most evident recently in the international organizations and the Security Council in issues that have created controversy and disputes among the international community like the Darfour issue, and the need to establish joint peace keeping force of the African Union and the UN.

The principle of mutual non interference has been key factor for the relationship with China to withstand the changing political regimes of Sudan, which have alternated between parliamentary democracy and military rules, and for the economic relationship with China to grow tremendously for the mutual benefits of both countries. This relationship which started as early as the 1960's, with bilateral trade agreements for long staple cotton export to China in return for manufactured and capital goods, has shown a continually rising trend.

In the 1970 the two countries signed an Agreement in Economic and Technical Cooperation and a Cultural, Scientific and Technical Protocol, which strengthened trade relations, and boosted Chinese aid in the form of free-interest loans, that were used in a number of projects in road and bridge construction, textile and agriculture and the construction of the multi purpose conference "Friendship Hall" in Khartoum. Aid projects were executed by Chinese workers with Sudanese counterparts. Technical cooperation followed with batches of Chinese doctors sent to work in Chinese built hospitals and in various areas of the country. The Chinese aid is seen as providing assistance in vitally needed infrastructural projects and is appreciated for meeting the demand for medical services where they are lacking in rural and suburban areas. The Chinese were hailed for their dedication, honesty and timely completion of projects at low cost and appropriate technologies which provided job opportunities (Ali, 2006).

The economic relationship reached unprecedented proportion in the 90's, with China being a key player in the development of the oil sector. President Omer El Beshir visited China in 1995 during which the Chinese Sudanese Friendship Society was formed, and joint ministerial committees were established for political coordination. Sudan was among the African countries which attended the Forum on China- Africa Cooperation (FOCAC) in 2000 and again in 2006.

The investment in the oil sector presented an opportunity for China to meet its demand for energy for her growing economy and sustained the political regime in Sudan, which was squeezed for foreign capital due

to boycott by foreign donors, was politically isolated regionally and internationally, and declared uncooperative by multilateral financial institutions like the IMF. Revenue from oil, and the introduction of macro economic reform policies, and liberalization of trade and investment regimes in the beginning of the 90's, which induced foreign direct investment flows from rich oil countries in the Middle East, relieved the government and helped it to break away from the economic and political embargo under which it was put.

As a result of the development of the oil sector, direct investment by Chinese government owned companies and private Chinese entrepreneurs has grown substantially, in diverse activities in mining, building and construction of roads and bridges and electricity and water sectors, and China has also stepped up its aid in monetary and non monetary terms. Trade with China has grown, with oil representing the bulk of it, and with the importation of manufactured, capital and transport goods.

The economic interests of China in Sudan which has grown substantially during the decade of the 90's were not, however, free of risk. China has become the major trading partner of Sudan, with her huge investment in the oil industry and importation of Sudan oil. This role is seen as consolidating the government position through the growth of the economy and provision of resources, and hence as declared by movements fighting the government in Darfur, and previously by SPLM/A before a peace deal was arrived at through CPA in the Southern Sudan, China's oil interest has become legitimate target in order to deter the onslaught on these groups, and led to attacks on the oil installations.

Eventually the conflict of Darfour, through its humanitarian dimension and displacement of population and loss of lives, have rallied support of international and humanitarian organizations and NGOs against China and the call for a more active role on her part towards a resolution of the conflict. These developments in China's relationship with Sudan are said to have put China's principle of non interference in the internal affairs of other countries to the test (Large, 2007). China has since been keen to balance its action of pursuing her economic interests and paying attention to the realities of the intricacies of political entanglement in which it found itself implicated in Sudan.

Consequently China has played a key role in persuading Sudan to accept a joint African Union/UN peace Keeping force (UNIMAID) in Darfour in 2007, and has contributed 315 soldiers to the mission from the Chinese Army Engineering Division. Its proactive diplomacy has shown a firm interest in working with international community, and through pressuring the government to resolve the conflict, and expressed concern for the plight of the Darfurian by stepping up grants and humanitarian assistance, and appointing a special Chinese Envoy for Darfour. A total Yuan 80 million (US$ 11 million) in humanitarian aid to Darfur was extended in 2007 to build 250 water stations, 55 schools, and for transport vehicles and health equipments.

China has also shown keen interest for developing relations with the Government of Southern Sudan (GOSS), after the signing of the Comprehensive Peace Agreement (CPA) in 2005 which resolved the Southern conflict; this was marked by two visits to China by Salva Kiir Myardit, first as second in command to John Garang in 2005, and later in 2007 as the President Of Southern Sudan Government and Vice President of the Government of National Unity (GONU). Here, once more oil has been key factor in the political arena, and has occupied a crucial position in the complex relationship between the SPLM and its partners of the National Congress party (NCP) in GONU. The insistence of NCP for keeping the strategic Ministry of Energy for itself has threatened the partnership in its early stages, and later as the ministers of the SPLM continued to complain about non transparency in the distribution of the oil revenue between the North and the South. China expressed its interest for the resolution of such differences and hoped for the implementation of CPA and continuation of peace.

The rest of this study deals with the impact of China's economic relations with the Sudan by identifying the importance of trade, FDI and aid, and the changing trend in the composition of each of these components. In section 2 an economic background is provided by looking briefly to the recent experience of growth in Sudan and the source of this growth, and its relationship to these channels. Trade issues such as the size, composition, significance and trends of exports to and imports from China and their likely impacts will be examined in section 3. A treatment of Chinese direct investment and aid to the country will be undertaken in section 4. In assessing the impact of these channels the analytical framework suggested by Kaplinsky

(2006) will used to identify the stakeholders, gainers and losers, distinguish between complementary and competitive impacts, and focus attention on specific impacts on economic growth, income distribution and poverty. A conclusion of the main findings revealed by the data and the implications regarding further analysis are given in section 5.

## 2. Economic Background:

Sudan's GDP growth rate averaged 3.8 percent per annum during 1990-95.Growth accelerated during 1996-2000, averaging 6.6 percent per annum, with a corresponding average annual growth rate in per capita income of 4.0 percent during this period. The growth and fluctuations in GDP is closely related to that of the agricultural growth. Agriculture plays a significant role in the economy of Sudan in terms of its contribution to GDP and employment. Until the end of the 90's its share in GDP was close to 50%. Agriculture and related activities employ about 80% of the labour force. It has spillover effects also through service and manufacturing sectors such as agro-industries. Thus agriculture is an important determinant of income and poverty of a large section of population.

Despite the importance of the agricultural sector it suffers from bottlenecks and drawbacks that have affected its performance adversely. Lack of infrastructural development in roads, transport linking production areas to products markets, had their tolls on the sector. Application of advanced technology and R&D in improved varieties of crops and efficient irrigation and cropping practices are lacking, or not applied appropriately. Above all government agricultural policies in marketing and pricing policies and systems of incentives and subsidies have contributed to low productivity of the sector. The improved macro policies of the government in 1990 has led to a rebound of agricultural growth, due mainly to improved growth of the rain fed traditional sector (24% per annum) and livestock sub sector (10.4%). The semi - mechanized crop sub-sector declined by 2.9% annually (World Bank, 2003).

Much of the growth in agricultural output is the result of expansion of areas under cultivation rather than improved productivity. For example, between 2000 -2006 the rain fed mechanized crop sub sector has grown considerably at the rate of 13% percent annually. The sector growth is mainly the result of extensive cultivation as it is characterized by low productivity.

In 2006 the expansion in crop agriculture occurred in traditional food crops such as sorghum, millet. Oil seeds crops, such as groundnuts and sesame while traditional cash crops, like cotton and gum Arabic, which were important source of foreign currency earnings, have declined due to contraction of cultivated areas and/or lower productivity. For example total cotton cultivated area was 299 thousands feddan in 2001/2002 with an average productivity of 4.7 quintal/feddan whereas in 2005/2006 cultivated areas increased by 36% but with an average productivity of 3.9 quintal/feddan. Gum Arabic production declined from 31.7 thousand tons in 95/96 to 8 thousand tons in 99/200. In 2005/2006 production reached 11.9 thousand tons [1].

**Table 1: GDP by Kind of Economic Activity, 2000 and 2006**

| Sector | 2000 (%) | 2006 (%) | Annual Growth 2000-2006 (%) |
|---|---|---|---|
| Agriculture | 46.4 | 39.2 | 4.6 |
| Industry: | 15 | 28.3 | 19.5 |
| Mining and Quarrying | 7.5 | 15.9 | 21.7 |
| Manufacturing | 7.5 | 6.9 | 6.2 |
| Electricity and Water | 1.7 | 1.4 | 3.1 |
| Building & Construction | 4.7 | 4.1 | 5.5 |
| Services: | 32.2 | 32.5 | 7.7 |
| Government | 5.8 | 12.4 | 22.1 |
| Other services | 26.4 | 20.1 | 2.7 |
| Total | 100 | 100 | 7.5 |

**Source: Own calculations based on Bank of Sudan Annual Reports.**

Overall, in the period 2000-2006 agricultural GDP has grown at a rate of 4.6 percent annually and its share in GDP declined from 46.4 percent to 39.2 percent (Table1). On the other hand, the Industry's share in GDP has increased. In 2000 its share reached 15 percent and increased to 28.3 percent in 2006. It is the fastest growing sector in the economy at a rate of 19.5 percent between 2000 -2006. Much of this growth is due to the growth of the mining and quarrying activity, and mainly to oil production. This sector recorded a growth rate of 21.7 percent annually between 2000 -2006. Manufacturing industry has grown by only 6.2 percent during the same period. Another important sector in terms of growth is the government services sector which has expanded at a rate of 22.1 percent annually during 2000-2006.

**3. Pattern of Trade with China and its possible Impacts:**

Table 2 shows Sudan's Trade during the period 1990-2006. Sudan exports increased considerably during this period rising in value from US$ 347.1 million in 1990 to US$ 5.6 billion 2006, at an average annual rate of growth of 18 percent. Similarly, imports have grown rapidly at a close rate, registering an average annual growth rate of 17 percent, but rising in value from US$ 618.5 million to US$ 8.1 billion during this period. Growth was fastest during the period of the mid 90's, which witnessed the beginning of oil production. Except for the years 2000-2001, that followed the export of oil, the trade balance registered a deficit, reaching 2.4 billion in 2006.

**Table 2: Sudan Trade 1990 - 2006 (Million US$)**

| Year | Imports | Exports | Balance |
|---|---|---|---|
| 1990 | 618.5 | 374.1 | -244.4 |
| 1991 | 890.3 | 305.0 | -585.3 |
| 1992 | 820.9 | 319.3 | -501.6 |
| 1993 | 944.9 | 417.3 | -527.6 |
| 1994 | 1,161.5 | 523.9 | -638.6 |
| 1995 | 1,184.5 | 555.7 | -628.8 |
| 1996 | 1,504.4 | 620.2 | -884.2 |
| 1997 | 1,579.7 | 594.2 | -985.5 |
| 1998 | 1,924.6 | 595.5 | -1,329.1 |
| 1999 | 1,414.9 | 780.1 | -634.8 |
| 2000 | 1,552.7 | 1,806.7 | 254.0 |
| 2001 | 1,585.5 | 1,698.7 | 113.2 |
| 2002 | 2,445.4 | 1,949.1 | -496.3 |
| 2003 | 2,881.9 | 2,542.2 | -339.7 |
| 2004 | 4,075.4 | 3,777.8 | -297.6 |
| 2005 | 6,756.8 | 4,824.3 | -1,932.5 |
| 2006 | 8,073.5 | 5,656.6 | -2,416.9 |

**Source: compiled from Bank of Sudan Annual Report, various issues.**

Production of oil has brought changes in Sudan's external trade and trading partners. Until the inception of oil production in 1998 agricultural commodities dominated Sudan exports, accounting for over 80 percent of exports value. With the start of oil production, oil export earned US$ 276 million and accounted for 35 percent of total exports in 1999. It rose to US$ 1.3 billion in 2000, representing 75 percent of the exports value, and resulting in a surplus in the trade balance of US$ 254 million after decades of trade deficit. Exports of oil almost quadrupled in 2006 and accounted for 90 percent of total exports (Annex, Table A3).

With oil production the direction of Sudan external trade changed considerably. The ADS have taken over as the most important export and import markets. Among Asian countries, China has emerged as the most important market for the exports and imports of Sudan. The share of EEC in Sudan's trade declined considerably, from 35% and 23% of exports and imports in 1998, to 1% and 14% in 2006, respectively.

**Table 3: Main Trading Partners 1998 and 2006**

| | 1998 | | 2006 | |
|---|---|---|---|---|
| **Country** | **% of Export, fob** | **% Imports, CIF** | **% Exports, fob** | **% Imports, CIF** |
| **China** | **0.15** | **13.8** | **75.0** | **20.8** |
| **Japan** | **2.8** | **4.5** | **9.2** | **6.6** |
| **India** | **4.4** | **3.3** | **0.4** | **7.4** |
| **South Korea** | **3.2** | **0.1** | **0.1** | **4.1** |
| **Saudi Arabia** | **24.4** | **15.5** | **2.2** | **8.0** |
| **Egypt & other Arab Countries** | **16.3** | **12.4** | **7.4** | **14.3** |
| **EEC** | **34.6** | **23.4** | **1.1** | **13.6** |

**Source: Own calculations based on Bank of Sudan Annual Reports, 2000 & 2006**

Exports to China have recorded an average annual rate of growth of 34 percent between 2000- 2006 while growth of imports amounted to 32 percent. China accounted, respectively, for 75% and 21% of Sudan's exports and imports in 2006 compared with a mere 0.1% and 13.8% in 1998. For most of the 90's the trade balance recorded a deficit with China, and starting 2000 a surplus is realized in trade with China, which reached US$ 2.5 billion in 2006 (Table 4).

**Table 4: Trade with China 1990 -2006 (Million US$)**

| Year | Imports | Exports | Balance | Imports (%) | Exports (%) |
|---|---|---|---|---|---|
| **1990** | **2.5** | **41.7** | **39.2** | **0.4** | **11.1** |
| **1991** | **32.1** | **13.7** | **-18.4** | **3.6** | **4.5** |
| **1992** | **16.8** | **0.4** | **-16.4** | **2.0** | **0.12** |
| **1993** | **26.9** | **0.1** | **-26.8** | **2.8** | **0.02** |
| **1994** | **37.4** | **32.0** | **-5.4** | **3.2** | **6.1** |
| **1995** | **42.3** | **56.6** | **14.4** | **3.6** | **10.2** |
| **1996** | **64.6** | **42.4** | **-22.2** | **4.3** | **6.8** |
| **1997** | **99.1** | **16.8** | **-82.3** | **6.3** | **2.8** |
| **1998** | **265.6** | **0.9** | **-264.7** | **13.8** | **o.15** |
| **1999** | **64.5** | **27.8** | **-36.7** | **4.5** | **3.6** |
| **2000** | **101.9** | **797.1** | **695.2** | **6.6** | **44.12** |
| **2001** | **169.0** | **1002.2** | **833.1** | **10.7** | **59.00** |
| **2002** | **196.2** | **1281.3** | **1085.1** | **8.0** | **65.74** |
| **2003** | **229.1** | **1761.9** | **1532.8** | **7.9** | **69.31** |
| **2004** | **529.6** | **2527.0** | **1997.4** | **13.0** | **66.89** |
| **2005** | **1383.0** | **3427.1** | **2044.1** | **20.5** | **71.04** |
| **2006** | **1679.4** | **4244.0** | **2564.6** | **20.8** | **75.03** |

**Source: compiled from Bank of Sudan Annual Report, different issues.**

China is the main market for the oil exports. In 2006 oil exports to China amounted to US$ 4.2 billion which accounted for 82 percent of total oil exports and 98 percent of Sudan's exports to China (Table5). Thus, the higher and increasing share of China's in Sudan's exports signifies the importance of oil in the rising trade with China. The share of labor-intensive agricultural and livestock products in exports to China was a mere 1.2 percent. The main commodities in this category are sesame, cotton, gum-Arabic and hides and skins. In 2006 sesame exports to China accounted for about one third of the total export value of sesame and 9.6 percent of cotton. The industrial countries represented the main market for gum-Arabic exports.

## Table 5: Structure of Exports to China (Million US$)

| Commodity | 2000 | % | 2002 | % | 2004 | % | 2006 | % |
|---|---|---|---|---|---|---|---|---|
| Petroleum Products | 795.20 | 99.76 | 1,280.20 | 99.91 | 2,500.28 | 98.94 | 4,186.77 | 98.65 |
| Agricultural products: | 0.39 | 0.05 | 1.12 | 0.09 | 26.37 | 1.04 | 54.28 | 1.28 |
| Cotton | 0.12 | 0.02 | 0.94 | 0.07 | 8.54 | 0.34 | 7.93 | 0.19 |
| Gum Arabic | 0.05 | 0.01 | 0.05 | 0.00 | - | - | 0.07 | 0.00 |
| Sesame | - | | - | | 16.16 | 0.64 | 45.71 | 1.08 |
| Hides & Skins | 0.22 | 0.03 | 0.13 | 0.01 | 1.67 | 0.07 | 0.58 | 0.01 |
| | - | | - | | - | | - | |
| Others | 1.50 | 0.19 | - | - | 0.38 | 0.01 | 2.92 | 0.07 |
| | - | | - | | - | | - | |
| Total | 797.08 | 100 | 1,281.32 | 100 | 2,527.03 | 100 | 4,243.97 | 100 |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, Different issues, and percentages are own calculation.**

The composition of Sudan's imports is shown in Table A3 (Annex). The main imports of Sudan include food, machinery and equipment, vehicles, chemicals, manufactured goods and textiles. The composition of imports changed during the 90's. Between 2000-2006 food imports, mainly wheat and flour, declined from 23 percent to 9.8 percent, while machinery and equipment rose from 20.8 percent to 34.8 percent and vehicles from 10 percent to 18.5 percent. Petroleum products fell dramatically following the production of oil, from 23 percent to 9.8 percent during this period.

Import from China rose from around US $102 million in 2000, representing 6.6 percent of total import value, to US $ 1.7 billion in 2006 which accounted for 20.8 percent of total imports. As shown in Table 6 (see Table A4.1 in appendix for more years), China's exports to Sudan are largely machinery and equipment (36%), manufactured goods (27%), transport equipments (21%) and textiles (8%). Table A4.2 (Annex) provides a breakdown of the imports at a finer level. The main items in the machinery and equipments are the electrical and non electrical mechanical appliances. The transport equipments are composed of railway locomotives and wagons and transport vehicles. Note the appearance of furniture and related items with a share of 2.4 percent in imports in 2006.

**Table 6: Imports from China by commodity 2000 - 2006 (US$ "000")**

| Year | 2000 | % | 2002 | % | 2004 | % | 2006 | % |
|---|---|---|---|---|---|---|---|---|
| Food & Beverage | 1,829 | 1.8 | 4,866 | 2.5 | 21,739 | 4.1 | 26,269 | 1.5 |
| Petroleum & Pet Prod | 69 | 0.1 | 98 | 0.0 | 671 | 0.1 | 1255 | 0.1 |
| Crude Materials | 59 | 0.1 | 240 | 0.1 | 750 | 0.1 | 4903 | 0.2 |
| Chemicals | 9,105 | 8.9 | 24869 | 12.7 | 39346 | 7.4 | 73881 | 5.4 |
| Manuf. Goods | 30,554 | 30.0 | 53901 | 27.5 | 156437 | 29.5 | 480471 | 27.4 |
| Mach. & Equipments | 37,275 | 36.6 | 67,990 | 34.6 | 164,730 | 31.1 | 716,045 | 36.3 |
| Trans. &Equipments | 15,629 | 15.3 | 21,003 | 10.7 | 74,749 | 14.1 | 220,310 | 20.7 |
| Textiles | 7,381 | 7.2 | 23265 | 11.9 | 71162 | 13.4 | 156282 | 8.4 |
| Total | 101,901 | 100 | 196,232 | 100 | 529,584 | 100 | 1,679,416 | 100.0 |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, various issues, and percentages are own calculation.**

Textiles import from China has been increasing, with a share in imports of 53 percent in 2006. Similarly, its share in the imports of manufactured goods and machinery and equipment have been rising; reaching, respectively, 29 percent and over 25 percent in 2006.

**Table 7: China's Share in Imports**

| Commodity | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|
| Food & Beverage | 0.51 | 2.25 | 1.04 | 1.85 | 3.89 | 2.38 | 3.31 |
| Petroleum & Pet Prod | 0.06 | 0.01 | 0.07 | 0.03 | 0.66 | 0.33 | 0.30 |
| Crude Materials | 0.20 | 2.21 | 0.35 | 0.85 | 0.78 | 2.84 | 3.55 |
| Chemicals | 4.12 | 7.41 | 12.05 | 6.69 | 12.01 | 15.20 | 15.06 |
| Manuf. Goods | 10.40 | 14.75 | 9.71 | 8.62 | 15.70 | 23.24 | 29.28 |
| Mach. & Equipments | 11.52 | 16.54 | 10.97 | 10.91 | 15.24 | 25.47 | 25.48 |
| Trans. &Equipments | 9.85 | 9.46 | 8.21 | 11.00 | 10.11 | 24.88 | 14.78 |
| Textiles | 12.20 | 18.86 | 16.58 | 27.62 | 40.67 | 49.97 | 52.92 |

**Source: Calculated from tables in Annex.**

Being an oil producer and exporter Sudan will benefit from the increasing oil price and from increasing trade with China. Thus, Trade will have a complementary direct impact. Oil revenues have become important as a source of foreign currency and revenue for the government budget, through which it can influence investment, income and employment.

On the other hand there are the risks associated with over-reliance on one primary product, which is characterized by volatility and fluctuations in its price. There are increasing concerns that booms in oil production may not lead to sustainable development and that busts could lead to permanent decline. In 2003 the World Bank observed that , "As yet, there is no evidence of a "Dutch Disease". Exchange rate overvaluation resulting from large oil receipts, rising wage cost caused by demand for non-tradable goods, and diminished competitiveness of traditional exports by the wage rate increases are not serious concerns currently." (World Bank., 2003). However, these risks are looming large today.

Many countries currently experiencing oil booms in SSA, including Sudan, are showing worrisome signs of Real Exchange Rate (RER) appreciation and overvaluation (Elbadawi and Kaltani, 2007). The appreciation in RER, which is the relative price of non-tradable to tradable, provides the incentive for resources and factors to move from the non oil tradable sectors (agriculture and manufacturing) to the non-tradable home goods sector (services, housing, etc). As a consequence of the appreciation of RER, and, therefore, declining profitability of non-resource tradable sector, agriculture and manufacturing decline over time. When overvaluation, that is RER being larger than the corresponding equilibrium level, is combined with continued low levels of financial development, as is the case with Sudan, the possibility of Dutch disease is large (Elbadawi and Kaltani, 2007).

Indirect impacts of trade are less obvious and difficult to assess. The growth of exports will not necessarily translate into an increase in per capita income and reduction of poverty. Oil and gas, and other mineral exports, which explain growth in Sudan's economy, are capital and skilled- labour intensive, rely heavily on imported inputs and have few linkages with the rest of the economy. Thus, the impact of growth in exports on employment and poverty alleviation will be limited. Also, since skilled high wage labour are going to benefit more than non skilled labour the degree of inequality will increase. However, the impact on employment and poverty reduction will depend to a large extent on how the government will spend the increasing revenue from oil and the distributional impact of government expenditure [2].

There are also direct competitive impacts on the economy since cheap manufactured imports from China replace goods produced by local producers such as footwear; furniture, cloth and textile. Craftsmen in industries like furniture and cloth have been affected and their jobs threatened as cheap Chinese products displaced their production. Even small repair shops of electrical appliances have been complaining from slackened demand for their services in the presence of cheap spare parts and substitutes. There are differential distributional impacts. Consumers gain from the cheap imports while producers may lose due to competitive pressure, although they may get cheaper supply of producer goods. There will be loss of jobs in uncompetitive firms and the government may gain (lose) revenue from indirect taxes and import duties on these goods and (reduced profits and income taxes) as businesses close and production is reduced.

There will also be indirect competitive impacts if the country's exports compete with cheap Chinese exports in third countries. Example is ADs competition in US which squeezes out Lesotho clothing exports (Kaplinsky, 2007). Sudan is unlikely to face such an impact as its manufacturing industry, except for sugar, is not export oriented. Manufacturing industry growth averaged only 6 percent during 2000-2006 reflecting low capacity utilization and uncompetitive costs. Except for large-scale enterprises such as in sugar, oil refinery, cement, and automobile assembly, industry consists of small and medium enterprises in food processing, pharmaceuticals, leather, paint and yarn and textile and suffer from erratic power supply, lack of spare parts and high input prices. Most of the factories operate at low capacity, as indicated in Table 8; the most affected industries are the shoes, vegetable oil, textile and cloth.

**Table 8: Capacity Utilization Ratio in some Industries of Sudan in 2006**

| **Industry** | **%** |
|---|---|
| **Leather** | **47** |
| **Refrigerators** | **50** |
| **Liquid Battery Cells** | **63** |
| **Dry Battery Cells** | **33.6** |
| **Pharmaceutique [a]** | **66.2** |
| **Paints [b]** | **40** |
| **Shoes** | **17.2** |
| **Flour Mills** | **36** |
| **Vegetable Oils** | **23** |
| **Textile** | **9.3** |
| **Yarn** | **9.8** |
| **Ready Made Cloth[c]** | **0.0** |
| **Soap** | **16** |

Notes: (a) average over the industry in 2004- 2005 (b) in 2005 (c) in 2004 7.7

Source: Bank of Sudan (2006), Annual Report.

However an indirect channel through which trade with China may have an adverse impact in the manufacturing sector in Sudan is through its impact on primary and intermediate inputs that enter into the production of some of the agro-processing manufacturing sector, in which Sudan could have a competitive edge. In late years Sudan's textile industry, vegetable oil and leather industry have suffered from supply constraints and high price of agricultural products (such as sesame, groundnuts, corn and sunflower) and competition of cheap imports of these goods.

China, for which sesame imports from Sudan represents about 5 percent of its imports of this commodity, is the world's largest producer and supplier of sesame. Sudan comes in third place as a producer but in first place as exporter, with China occupying the third place in the list of exporting countries (Ministry of Finance, 2007). Given the scale of China's production and consumption, changes in China's production and trade are likely to produce large variations in prices, affecting in turn producer (farmers/manufacturers) and consumers.

Manufacturing industry using the primary commodity inputs whose price may increase as a result of China's increasing demand for these products may face high cost of production, low profits and become uncompetitive. Thus, it seems appropriate from this perspective to pose the question, as Geda notes, as to whether the collapse of the existing inefficient domestic manufacturers is a desirable outcome in terms of future industrialization prospects, compared to the terms of trade gains resulting from the surge in growth of Chinese and Indian economies (Geda, 2007)

On the other hand, producers of agricultural primary commodities e.g. oil crops (sesame, groundnuts and sunflower), cotton, leather may benefit directly from the high commodity prices. It is argued, however, that primary commodity producers in the low value chain (farmers) do not receive much of the benefits of the high prices. The evidence suggests that, "while African producers have incurred income losses, traders and firms in the higher steps of the value chain have been reaping significant benefits." (Obwona and Chirwa, ). Therefore, these direct and indirect impacts have poverty and income distribution implications that affect the different social groups differently and need to be studied.

**4. Nature of Foreign Direct Investment and Aid and possible Impact:**
**4.1. FDI:**

Though Sudan bilateral relations with China goes back as far as 1970's it is only at the end of the 90's that direct investment and aid witnessed an increasing surge. Back in the 1970's, China's investment and assistance in Sudan concentrated in small investments in roads, bridges and public buildings construction. By the end of the 90's huge amount of direct investment had taken place in the oil extraction.

It is imperative to note that China's FDI flows to Sudan in the 90's was largely driven by a desire to secure source of energy and raw material for the unprecedented growth in her economy, and is therefore, natural resource-seeking investment. Secondly, that these flows would not have diverted any FDI that would have been coming to Sudan, not least because at that time Sudan's foreign relation and the internal political situation made any attraction of such investment a difficult task. In fact the Americans, namely Chevron, who started the investment in the oil sector during Numeri's government have pulled out of the country.

Thus, a consortium of foreign oil companies (The Greater Nile Petroleum Operating Company, GNPOC) from Malaysia and Canada, together with a state owned enterprise (Sudapet), was led by China National Petroleum Company (CNPC), the major oil investor, with 40% in the stake, to start production in Heglig and Unity Production fields. Canada Talisman Energy Inc. acquired 25%, Petronas of Malaysia 30% and the state oil company, Sudapet Ltd., owned 5% in the stake. Later, due to pressures from investors and human right activists in the USA, Talisman share was sold to an Indian state owned enterprise, ONGC-OVL.

A Chinese Subsidiary of the CNPC, the China Petroleum Engineering and Construction Corporation , was involved in the construction of an oil pipeline 1610-km long which provides access to Port Sudan in the

Red Sea. The pipeline has a capacity of 250000 bpd, which could handle 450000 bpd with additional pumping stations A Refinery was built in Khartoum as a joint venture between CNPC and Ministry of Energy in 2000. This oil investment and the associated activities attracted a cumulative US $ 1.3 billion DFI representing 10% of GDP during 1996 -2000 (World Bank, 2003). Following this consortium another major joint venture, Petrodar, was given the right to develop concession in the Melut Basin of Upper Nile. The stakeholders in this venture are CNPC (41%), Petronas (40%), Gulf Petroleum (Althan) (5%), Sinopec (6%) and Sudapet (8%).

Oil production started in 1999 with 116,680 barrel a day, reaching about 250,000 in 2001. Currently production is said to have reached 500,000 barrel a day, of which 425,000 are exported with the rest used for local consumption (Al-Ayam Daily, 29th July 2007). The development of the oil sector has boosted economic growth and increased access to foreign exchange. As a result of this development Sudan's relation with the IMF improved, and a previous decision by the Institution that classify Sudan "non cooperating country" for her failure to meet its foreign debt obligations was revoked, and its voting rights were reinstated in 2000 (World Bank, 2003).

The mining sector (oil and non oil) continued to attract the bulk of FDI flows, with the ADs, particularly China, being the major contributor. Table 9 shows the cumulative value of FDI during the period 2000-2007. This amounted to US$ 7.3 billion. The mining sector share is 72 percent while the services sector comes next with about 24 percent of the total investment. Investment in the industrial sector amounted to US$ 200 million, which is less than 3 percent of the total invested. The flow of FDI to agricultural sector has been very small, not exceeding 0.1 percent of the total, and coming almost entirely from Arab countries.

**Table 9: Foreign Direct Investment by Country and Sector (2000-2007) ('000' US$)**

| Sector / Country | Oil/Mining | Services | Industry | Transport | Agri/livestock | Total | % |
|---|---|---|---|---|---|---|---|
| Arab | 60,008.7 | 1,474,666.0 | 185,645.1 | 80,298.1 | 9,162.8 | 1,809,780.7 | 24.8 |
| Asian | 5,203,598.3 | 9,528.3 | 5,327.2 | 907.0 | 410.8 | 5,219,771.6 | 71.7 |
| European | - | 36,235.0 | 6,612.4 | 4,376.4 | 41.8 | 47,265.6 | 0.6 |
| African | 80.0 | 195,000.0 | 522.6 | - | - | 195,602.6 | 2.7 |
| USA | - | 32.4 | - | - | - | 32.4 | 0.0 |
| Austrilian | - | - | - | 3,084.5 | - | 3,084.5 | 0.0 |
| Others | - | 6,269.9 | 1,761.6 | 380.7 | - | 8,412.2 | 0.1 |
| Tot Al | 5,263,687.0 | 1,721,731.6 | 199,868.9 | 89,046.7 | 9,615.4 | 7,283,949.6 | 100.0 |
| % | 72.3 | 23.6 | 2.7 | 1.2 | 0.1 | 100.0 | |

It is also notable from Table 7 that the 72 percent of the investment is Asian while around 25 percent are flows from the Arab countries (mainly Saudi Arabia, Emirates and to lesser extent Oman) [3]. Asian FDI flows are, therefore directed to the mining activities while those from Arab countries targeted the services sector (mainly telecommunication, providing mobile services, banking and transport). The latter's investment activities in the banking and transport is largely acquisitions of existing public enterprises that were the result of government divestiture. Thus, not much would be expected in terms of their impact on employment and income generation.

An examination of approved investment projects in the years 2006 and 2007 is informative, regarding the type of manufacturing activities on which Chinese companies direct their investment. In these two years 31 projects were approved for Chinese investors and their sectoral distribution is shown in Table 10. Most of the manufacturing is in the machinery and electrical appliances in automobile, electronics and computer assembly and spare parts production oil-related manufacturing like plastics. The services sector is dominated by the construction, engineering and contracting business. Only 2 agricultural projects were approved. It is observed that these projects are small or medium size, the largest capital investment being in the manufacturing of plastics and mining, and most of them owned by Chinese; nine of these projects are joint ventures with Sudanese. Moreover, except for mining perhaps, they are not export oriented.

**Table 10: Approved Investment Projects by Chinese Companies, 2006 and 2007**

| Sector | Number |
|---|---|
| **Mining** | **2** |
| **Agriculture and Poultry** | **2** |
| **Manufacturing:** | |
| **Ready-made Cloth** | **1** |
| **Machinery and Electrical Appliances** | **5** |
| **Plastic Products** | **6** |
| **Pharmaceutical** | **1** |
| **Furniture** | **1** |
| **Building Materials (Brick)** | **2** |
| **Services:** | |
| **Construction, Engineering and contracting** | **8** |
| **Transport** | **2** |
| **Other** | **1** |
| **Total** | **31** |

Source: compiled from Ministry of Investment Data Base.

Following the signing of the CPA and visits by the president of the Government of Southern Sudan, China has started opening its way to Southern Sudan. The size of Chinese businesses venture is still small, but is expected to grow, given the wealth of natural resources in the South, the strategic location between east Africa and central Africa where China has business interest, and the fact that most of the Sudan's present oil fields and reserves lies in the boundaries of the South. Chinese businesses entered Juba via Kenyan and Ugandan brokers in the form of private joint ventures; the Nile Construction Company entered into a joint venture with the Chinese company Golden Nest in 2006 to work on construction projects, and another Chinese company won contracts to renovate ministers' quarters and hospital (Large, 2007).

**4.2 AID**:

Sudan is one of the African countries which receive small amounts of aid. In 2003 aid per capita was US$ 18.5 and as a proportion of GDP was around 12 percent (UNDP, 2005). Sudan receives both monetary and non-monetary aid from China. The latter includes debt relief, technical assistance (e.g. Chinese doctors working in Chinese built hospitals), scholarship and training programs, and gifts of buildings, equipment and other capital goods. It is difficult to get data on aid compiled and classified by the receiving sectors. The following is an account based on official reports by the government on the size of economic cooperation between China and Sudan and the agreements that resulted in implementation of development projects. The agreements are diverse and cut across all the sectors, but what is apparent is the dominance of investment in infrastructural development projects in electricity, water, roads and bridges, particularly in the last two decades.

**1970- 1979:**

Between 1970- 1979 Sudan received three interest free loans from China with a total of Yuan 260 million, which were used in the following projects:

- Medani-Gadarif Road
- Friendship Hall in Khartoum
- Fisheries in Wadi-Halfa
- Rice Development in Awei (Southern Sudan)
- Textile and Weaving Factory in Hassa-Heissa

**1981- 1987:**

Three interest free loans equal in value to Yuan 223 million were used to implement the following projects:

- Singa town Bridge
- Ready Made Cloth Factory
- Friendship Hospital
- A vocational Training Center
- Rice Cultivation Development

**1990- 1992:**

The 1990's is landmark in economic and technical cooperation between China and Sudan as they witnessed a surge in economic and technical cooperation. An Agreement on Economic and Technical cooperation is signed in 1990 and another agreement on Economic, Trade and Technical Cooperation followed in 1992.

A number of interest free loans with a total value of Yuan 100 were given and utilized in projects ranging from university laboratory equipments, hospital equipments, renovation of Friendship Hall, irrigation equipments and means of production to support income generation of needy family by Family Producing Unit of Ministry of Social Planning.

**1992- 2001:**

The following gives an account of agreements that were executed between 1992- 2001:

- A grant was given for the construction of a bridge at the White Nile in 1996
- A number of agreements for cooperation between Khartoum University and Gezira University and Chinese universities in 1996.
- An agreement with the Ministry of Energy in 1997 to establish an Oil Information Center.
- An agreement to purchase irrigation equipments for the Ministry of Irrigation through the Chinese Company CAMC in 1997
- An agreement to obtain a commercial loan equal to US$ 5 million to purchase equipments for the White Nile State through SOGEC Company in 1998.

- An agreement to build A Thermal Electricity Generation Station at Rahad in Southern Kordofan in 1998
- An agreement for commercial loan with a value of US $106 million to purchase cables for the National Electricity Corporation through CAMC in 1998
- An agreement with the Ministry of Finance and National Economy (MFNE) to import electricity generators (one KW each) for a number of cities in different states in 2000; and in the same year an agreement for importation of 20 generators through direct payment
- An agreement to rehabilitate and improve the capacity of Sudan Airways through loans equal to US$ 180 million
- An agreement in 2001 for a commercial loan with total value US$ 149.5 for establishment of Gari Power Station with a capacity of 210 kw
- A grant of US$ 1.2 million for the manufacture of Solar Cells with the Ministry of Energy
- An agreement for an interest free loan of US$ 3.7 with the Ministry of International Cooperation in 2001
- An agreement with the Ministry of International Cooperation to write-off debts equivalent to US$ 66.4 million in 2001

**2002 – 2006:**
Total loans and grants provided by China during the period 2002-2006 amounted US$ 1.1 billion, which represented 37 percent of US$ 2.8 of loans and grants contracted by Sudan from various sources (Table 11). These loans and grants were used to finance investment in the following projects:

2002: Khartoum state electricity (US$ 12.1million) and equipments and spare parts
2003: Water Project equipments (US$10.0 million) from Boshan Company
2004: Soft loan for 10 years (US$3.6 million) and water equipments (US$11.2 million)
2005: Electric Generators (CNEEN Co.); Rehabilitation of the Cotton Ginning Factories (Boshan); Khartoum North Thermal Electricity Generation (CAMC Co.); Gedarif Water Project; (Elfashir Water Project (CAMC Co.); Drilling of 150 Wells (Tiangin Co.); Irrigation Equipment (Boshan Co.); Engineering Equipment (CAMCO Co.); Drilling of 50 Wells in North Kordofan State (Tiangin); Port Sudan Water Project (CMIC Co.); Rabbak Grain Sylo; a loan not allocated (US$ 3.6 million)
2006: North Kordofan Solar Energy (US$ 4.6 million);Importation of water pipes (US$ 17.2); grant for the National Capital Power Project (US$19.5 million); Mek-Nimer Bridge (US$14.4 million) and Water Projects in towns in different states (US$ 119 million).

## Table 11: Loans and Grants 2002-2006 (Million US$)

| | 2002 | 2003 | 2004 | 2005 | 2006 | Total 2006- | 2002 |
|---|---|---|---|---|---|---|---|
| **Total Loans** | **691.2** | **114.3** | **243.2** | **1.072.5** | **589** | **2710.2** | |
| **China Loans** | **50.7** | **10** | **14.8** | **814** | **155.2** | **1044.5** | |
| **As %** | **7** | **8.7** | **6.1** | **75.9** | **26.3** | **38.5** | |
| **Total Grants** | | | **6.7** | **3.3** | **138.2** | **148.2** | |
| **China Grants** | | | **3.6** | **1.2** | **19.5** | **24** | |
| **As %** | | | **53.6** | **36.4** | **13.9** | **16.2** | |
| **Loans and Ga Nts** | **691.2** | **114.3** | **249.9** | **1075.8** | **727.2** | **2858.4** | |
| **China Loans &Grants** | **50.7** | **10** | **18.4** | **815.2** | **174.7** | **1068.5** | |
| **As %** | **7** | **8.7** | **7.4** | **75.8** | **24** | **37.4** | |

**Source: compiled from Bank of Sudan Annual Report, different issues.**

An apparent feature of Chinese aid is that it is implemented by Chinese companies through Chinese labor and imports of goods and equipments from China. China Exim bank is involved in financing Chinese

government loans and grants, and also provides loans for Chinese companies either directly or on behalf of China government to finance investment in electricity power stations in Sudan. The grant of Yuan 100 used in oil production operations was arranged through Central Bank of Sudan and the EXIM in 1996.
For 2005 where Chinese loans represented over four-quarters of the total contracted by Sudan in that year, and where the cost of loans and terms of repayment are available (Bank of Sudan Annual Report), the median interest rate on these loans is 4 percent while the median repayment period is 6 years. However, it not possible to judge the magnitude of other charges involved and borne by the Sudan from the official reports, and which may raise the cost of Chinese finance further.

The Chinese private companies' presence is becoming increasingly felt in implementing projects for the government of Sudan on behalf of their government commitment through loans and grants, or by directly bedding for these projects. This presence is most obvious in the building and construction sector. Examples of projects and executing companies in this area are: White Nile Bridge (Gilin), Nyala- ElFasher road (Shiban), Nuhud-El Obeid road (Ching Kong), Atbara-Haya road (Tico and an Indian Co.). Projects implemented jointly with the government by Chinese companies included a pharmaceutical plant constructed by the Sudan Medical Supplies Corporation and Shanghai Pharmaceutical Co. and Gold Mining in Northern State and the Blue Nile state between the Chinese Company for Mining and the Geological Research Corp. Chinese companies are also major investors in the huge Nile River Merowe Dam, 450 kilometers north of Khartoum, which involves the construction of a large hydropower station.

Table 12 gives the number of Chinese companies registered an operating which indicates that the majority of these companies are working in oil and mining sector and the trading sector (mainly export-import business). As the Chinese companies have proliferated so too are the Chinese workers whom these companies prefer to local labor. It is estimated that the number of Chinese workers has increased substantially from its level in the mid 90's to reach some 23875 by 2004 (Ali, 2006).

**Table 12: Registered Operating Chinese Companies by Economic Activity (as at 2000)**

| **Sector** | **Number** |
|---|---|
| **Industry** | **4** |
| **Oil** | **9** |
| **Investment and Trade** | **13** |
| **Mining** | **4** |
| **Construction, Engineering and Contracting** | **6** |
| **Agriculture and Livestock** | **4** |
| **Total** | **40** |

Source: Ali (2006)

The impact of ADs on FDI flows are analyzed in terms of it competitive (Africa and ADs are in competition for attracting third party FDI) and complementary effects. Regarding these effects it is contended that the flows of FDI to China and India is largely the result of activity of overseas Chinese and Indians, and does not seem to cause a diversion of FDI away from Africa, and that total flows from China and India to Africa is extremely limited (Geda, 2006).

On the other hand, and as the forgoing analysis has demonstrated, China's investments in Sudan are largely concentrated on the oil sector. This has led to tremendous growth in the country's oil export sector, and to tremendous growth in the export earnings and lessening of the financial constraints facing the government budget. From this perspective, China's relationship is complementary. Investment in the agricultural sector, which would lead to employment generation for unskilled labor and an increase in income of rural population, with direct implications for poverty reduction, has been insignificant.

Thus, the concentration of investment in the oil sector, which is capital and skilled-labor intensive and the reversal of the pattern of exports from being dominated by labor-intensive traditional agricultural primary commodities, to crude petroleum exports that are capital-intensive, is likely to have indirect negative impacts on employment, poverty and income distribution. There are also environmental challenges of

increased investment in the oil sector in the form of water and air pollution, the need for management of industrial waste…etc. The anecdotal evidence indicate that companies working in this area seem to be less concerned and lax with the damage that was inflicted in the local population and led to loss of large areas of cultivable lands due to the contamination and water pollution resulting from oil operations. This damage seemed to be recently felt at intolerable levels in villages surrounding the oil operation fields in Melut basin, to the extent that the governor of the state threatened to bring the case against the operating companies to the courts, as the daily newspapers indicated.

Regarding the impact of AID, we noted that China development aid in the period 2000-2006 is directed to development in infrastructure in electricity, water, transport and bridges. Obviously aid provides increasingly needed finance for development and alleviate the constraints faced by the government in funding essential projects, and therefore would have a complementary impact. This aid is contended to help the manufacturing and agricultural sectors by improving infrastructure that allows greater efficiency and timely deliveries. The development changes in the sectors could have growth, distribution, governance and environmental impacts (McCormick, 2006).

In particular, the projects in the area of electricity would help alleviate the constraints on badly needed energy, and remove some of the obstacles facing the development of the manufacturing sector, and hence would enhance productivity and raise output . Also, water projects are equally important for industry, and by providing clean and secured sources of drinking water are directly linked, and have a positive impact on health, by reducing the incidences of disease such as those that inflict children, like diarrhea, and hence contribute to reduction of child mortality.

As the electricity and water projects and roads are being located in urban areas they may influence the location of industry to become concentrated in urban centers, and therefore attract labor from rural areas. This would lead to change in income distribution and rural- urban population distribution. The net impact on income distribution would depend on the industry's technology, whether labor or capital intensive, and on the groups whose income increase in the process e.g. skilled versus unskilled labor.

## 5. Conclusion and Implications:

Starting 1999 Oil has become a significant factor in Sudan economy and has dominated the export sector since then. It has contributed to the boost in GDP growth and provided the government with revenue and foreign exchange. Thus, Oil exports represented the bulk of export trade with China. The role of China is instrumental in this change since it represented the largest stake holder in oil investment, driven by its desire to secure energy for her fast growing economy.

Oil being and enclave sector is not expected to contribute to employment expansion and poverty reduction. When investment activities carry with them labour-intensive components (building and construction) Chinese labour is largely involved. Development projects financed by loans contracted with China are implemented by Chinese firms which possess the know-how and can compete with cheap cost and labor.

The development of the oil sector has led to negligence of agriculture, low growth and declining share with dire consequences for poverty, since it is the largest employer and income generator for the majority of population. Some of the traditional cash crops outputs and consequently their exports, like cotton and gum Arabic, have fallen. The implications of this for poverty and livelihood of rural population and its impacts on migration to urban areas and, therefore, growth of urban unemployment are obvious.

Also, the low productivity, and slowly growing manufacturing urban-concentrated non export- oriented sector, which is becoming increasingly exposed to competition from cheap labor-intensive manufactured consumers' goods, like textiles, electrical equipments, shoes and furniture imported from China, makes the prospect for expanding employment in urban centers through industrialization scanty. In addition, the appreciation in the Sudanese pound may lead to capital-intensive development of industry, and labor imports from Asian countries as has now become observed.

As it is contended that the only way out to avoid being locked in primary sector production is by development of a dynamic, diversified economy which rests on a competitive export oriented manufacturing sector, from which significant productivity gains can be driven, Sudan needs to have clear strategies, which is presently lacking, that would maximize the benefits from its trade and investment relations with China. Though Sudan exports of primary commodities like cotton and sesame to China have increased in recent years, it does not seem that Sudan is making full advantage of the sheer size of the Chinese market and her demand for these products as the case of sesame exports to China indicates. Investment in agricultural sector has not been forthcoming in the amounts required to influence expansion of employment, and lead to an increase in income and reduction of poverty.

One way that a "win-win" relation can be achieved is by utilizing investment flows from China to transfer technology and learning by doing through joint venture, ownership and management, or skill transfer, in manufacturing and agricultural projects. A priori, one would need, however, an empirically in depth exploration of the extent to which trade with China has affected the production and employment in these sectors, and particularly the manufacturing sector. Geda (2007) suggested using FGM as a framework for studying the impact of China's on African manufacturing sector. In order to identify the country as a case study this requires (a) classifying manufacturing exports by level of technology of the export in question and (b) computing indices such as the Revealed Comparative Advantage Index (RCA). In the case of Sudan the manufacturing sector is not export oriented, and produces mainly for the domestic market.

The pattern of FDI that emerges in the context of the FGM, that is "pro-trade" FDI, is not observed yet in Sudan. If anything, this process might be at its early stages, as investment by Chinese in labor intensive manufacture in Sudan is limited, and constituted mainly of small and medium enterprises which are not export oriented. Though Sudan may gain a competitive edge in some of the industry like cloth and textile, footwear and food processing, namely, vegetable oil production by striving to an efficiently highly productive sector, there is no indication that any significant investment by the Chinese is directed to these sectors.

Therefore, in anticipation of further analysis of the impact of trade with China on Sudan, I would suggest an in depth study relating to the impact on the manufacturing sector of Sudan, which test this impact by developing an econometric model that measures the competitive effect of import penetration from China and other Asian trading partners in the manufactured products, on employment in the sector. The analysis should also allow for testing the effect of factor prices (e.g. wages), the industry's capital stock and other structural and institutional factors.

**Notes:**

**1. Data on GDP, crop output, areas and productivity are from Bank of Sudan Annual Report.**
**2. Available data indicate that unemployment, poverty and inequality are very high and on the increase. Conservative estimates put the proportion of people falling below poverty line at 60 percent while estimates derived from a Manpower Survey in 1996 arrived at figures exceeding 90 percent. The same survey gives an estimate of unemployment rate of 17 percent, with a higher rate of 20 percent prevailing in urban areas.**
**3. The data in Table 7 are unpublished and obtained directly from Bank of Sudan. We could not get a breakdown of the Asian FDI to arrive at figures for China at the moment. It is contended however that a large part of the Asian investment is from china.**

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**Table A1: Sudan Exports by commodity 2000 - 2006 (Million US$)**

| | 2000 | % | 2001 | % | 2002 | % | 2003 | % | 2004 | % | 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pet & Pet Prod** | 1,350.76 | 74.8 | 1,376.7 | 81.0 | 1,505.7 | 77.2 | 2,047.7 | 80.5 | 3,100.5 | 82.1 | |
| **Agri** | 231.77 | 12.8 | 184.6 | 10.9 | 175.8 | 9.0 | 220.2 | 8.7 | 337.1 | 8.9 | |
| **Gold** | 46.16 | 2.6 | 43.7 | 2.6 | 52.5 | 2.7 | 58.6 | 2.3 | 50.4 | 1.3 | |
| **Livestock+** | 91.01 | 5.0 | 19.6 | 1.2 | 137.2 | 7.0 | 137.9 | 5.4 | 182.4 | 4.8 | |
| **Others** | 87.02 | 4.8 | 74.1 | 4.4 | 77.9 | 4.0 | 77.8 | 3.1 | 107.4 | 2.8 | |
| **Total** | 1,806.71 | 100 | 1,698.7 | 100 | 1,949.1 | 100 | 2,542.2 | 100 | 3,777.8 | 100 | |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, various issues, and percentages are own calculation.**

**Table A2: Structure of Exports to China (Million US$)**

| **Commodity** | 2000 | | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Petroleum Products** | 795.20 | 99.76 | 1,002.00 | 99.98 | 1,280.20 | 99.91 | 1,740.25 | 98.77 | 2,500.28 | 98.94 | 3,385.82 | 98.80 |
| **Agricultural products:** | 0.39 | 0.05 | 0.12 | 0.01 | 1.12 | 0.09 | 19.00 | 1.08 | 26.37 | 1.04 | 38.30 | 1.12 |
| Cotton | 0.12 | 0.02 | - | - | 0.94 | 0.07 | 12.84 | 0.73 | 8.54 | 0.34 | 11.94 | 0.35 |
| Gum Arabic | 0.05 | 0.01 | 0.06 | 0.01 | 0.05 | 0.00 | 0.06 | 0.00 | - | - | 0.30 | 0.01 |
| Sesame | - | | - | | - | | 4.51 | 0.26 | 16.16 | 0.64 | 24.18 | 0.71 |
| Hides & Skins | 0.22 | 0.03 | 0.06 | 0.01 | 0.13 | 0.01 | 1.59 | 0.09 | 1.67 | 0.07 | 1.89 | 0.06 |
| | - | | - | | - | | - | | - | | - | |
| **Others** | 1.50 | 0.19 | 0.06 | 0.01 | - | - | 2.63 | 0.15 | 0.38 | 0.01 | 2.99 | 0.09 |
| | - | | - | | - | | - | | - | | - | |
| **Total** | 797.08 | **100** | 1,002.17 | **100** | 1,281.32 | **100** | 1,761.87 | **100** | 2,527.03 | **100** | 3,427.10 | **100** |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, various issues, and percentages are own calculation.**

**Table A3: Sudan Imports by commodity 2000 - 2006 (Million US$)**

| Year | 2000 | % | 2001 | % | 2002 | % | 2003 | % | 2004 | % | 2005 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Food & Beverage | 358.2 | 23.1 | 325.6 | 20.5 | 467.0 | 19.1 | 445.0 | 15.4 | 558.5 | 13.7 | 853.3 | 12.6 |
| Petroleum & Pet Prod | 108.0 | 7.0 | 98.1 | 6.2 | 132.3 | 5.4 | 172.3 | 6.0 | 101.4 | 2.5 | 322.0 | 4.8 |
| Crude Materials | 29.0 | 1.9 | 10.5 | 0.7 | 68.6 | 2.8 | 105.3 | 3.7 | 96.4 | 2.4 | 104.5 | 1.5 |
| Chemicals | 221.1 | 14.2 | 123.6 | 7.8 | 206.5 | 8.4 | 328.4 | 11.4 | 327.5 | 8.0 | 493.8 | 7.3 |
| Manuf. Goods | 293.7 | 18.9 | 296.5 | 18.7 | 555.0 | 22.7 | 716.3 | 24.9 | 996.5 | 24.5 | 1,627.9 | 24.1 |
| Mach. & Equipments | 323.5 | 20.8 | 442.5 | 27.9 | 619.8 | 25.3 | 666.6 | 23.1 | 1,080.8 | 26.5 | 1,971.9 | 29.2 |
| Trans. &Equipments | 158.7 | 10.2 | 202.9 | 12.8 | 255.8 | 10.5 | 361.9 | 12.6 | 739.3 | 18.1 | 1,149.7 | 17.0 |
| Textiles | 60.5 | 3.9 | 85.7 | 5.4 | 140.3 | 5.7 | 85.7 | 3.0 | 175.0 | 4.3 | 233.7 | 3.5 |
| **Total** | 1,552.7 | 100.0 | 1,585.5 | 100.0 | 2,445.4 | 100.0 | 2,881.9 | 100.0 | 4,075.4 | 100.0 | 6,756.8 | 100.0 |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, various issues, and percentages are own calculation.**

**Table A4.1: Imports from China by commodity 2000 - 2006 (US$ "000")**

| Year | 2000 | % | 2001 | % | 2002 | % | 2003 | % | 2004 | % | 2005 | % | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Food & Beverage | 1,829 | 1.8 | 7,332 | 4.3 | 4,866 | 2.5 | 8,250 | 3.6 | 21,739 | 4.1 | 20,349 | 1.5 | 26,269 |
| Petroleum & Pet Prod | 69 | 0.1 | 6 | 0.0 | 98 | 0.0 | 49 | 0.0 | 671 | 0.1 | 1076 | 0.1 | 1255 |
| Crude Materials | 59 | 0.1 | 233 | 0.1 | 240 | 0.1 | 893 | 0.4 | 750 | 0.1 | 2972 | 0.2 | 4903 |
| Chemicals | 9,105 | 8.9 | 9160 | 5.4 | 24869 | 12.7 | 21969 | 9.6 | 39346 | 7.4 | 75083 | 5.4 | 73881 |
| Manuf. Goods | 30,554 | 30.0 | 43720 | 25.9 | 53901 | 27.5 | 61720 | 26.9 | 156437 | 29.5 | 378372 | 27.4 | 480471 |
| Mach. & Equipments | 37,275 | 36.6 | 73,212 | 43.3 | 67,990 | 34.6 | 72,724 | 31.7 | 164,730 | 31.1 | 502,334 | 36.3 | 716,045 |
| Trans. &Equipments | 15,629 | 15.3 | 19,201 | 11.4 | 21,003 | 10.7 | 39,801 | 17.4 | 74,749 | 14.1 | 286,049 | 20.7 | 220,310 |
| Textiles | 7,381 | 7.2 | 16165 | 9.6 | 23265 | 11.9 | 23682 | 10.3 | 71162 | 13.4 | 116754 | 8.4 | 156282 |
| Total | 101,901 | 100 | 169,029 | 100 | 196,232 | 100 | 229,088 | 100 | 529,584 | 100 | 1,382,989 | 100.0 | 1,679,4 |

**Source: Figures on trade are compiled from the Annual Foreign Trade Statistical Digest, various issues, and percentages are own calculation.**

Table A4.2: Commodity Composition of Imports from China 2000 and 2006

**Imports in 2000:**

| Code | Commodity | (000,S DINAR) | % |
|---|---|---|---|
| 29 | ORGANIC CHEMICALS | 338.951 | 1.1 |
| 33 | ESSENTIAL OILS & RESINOIDS; PERF, COSMETIC/TOILET PREP | 528,601 | 1.7 |
| 39 | PLASTICS AND ARTICLES THEREOF | 2,791,152 | 9.2 |
| 40 | RUBBER AND ARTICLES THEREOF | 1,397,001 | 4.6 |
| 55 | MAN-MADE STAPLE FIBRES | 1,270,048 | 4.2 |
| 62 | ART OF APPAREL & CLOTHING ACCESS, NOT KNITTED/CROCHETED | 338,080 | 1.1 |
| 64 | FOOTWEAR, GAITERS AND THE LIKE; PARTS OF SUCH ARTICLES | 627,700 | 2.1 |
| 69 | CERAMIC PRODUCTS | 414,358 | 1.4 |
| 73 | ARTICLES OF IRON OR STEEL | 3,358,176 | 11.1 |
| 82 | TOOL, IMPLEMENT, CUTLERY, SPOON & FORK, OF BASE MET ETC | 353,262 | 1.2 |
| 84 | BOILIERS, MCHY & MECH APPLIANCE; PARTS | 7,073,561 | 23.4 |
| 85 | ELECTRICAL MCHY EQUIP PARTS THEREOF; SOUND RECORDER ETC | 2,977,307 | 9.9 |
| 87 | VEHICLES O/T RAILW/TRAMW ROLL-STOCK, PTS & ACCESSORIES | 1,535,310 | 5.1 |
| 90 | OPTICAL, PHOTO, CINE, MEAS, CHECKING, PRECISION, ETC | 321,029 | 1.1 |
| | Others | 6,883,521 | 22.8 |
| | TOTAL | 30,208,058 | 100.0 |

**Imports in 2006**:

| Code | Commodity | (000,S DINAR) | % |
|---|---|---|---|
| 28 | INORGN CHEM; COMPDS OF PREC MET, RADIOACT ELEMENTS ETC | 4.193.196 | 1.2 |
| 38 | MISCELLANEOUS CHEMICAL PRODUCTS | 3,956,168 | 1.1 |
| 40 | RUBBER AND ARTICLES THEREOF | 9,503,051 | 2.6 |
| 55 | MAN-MADE STAPLE FIBRES | 12.950.937 | 3.6 |
| 62 | ART OF APPAREL & CLOTHING ACCESS, NOT KNITTED/CROCHETED | 18,719,685 | 5.2 |
| 64 | FOOTWEAR, GAITERS AND THE LIKE; PARTS OF SUCH ARTICLES | 10,318,409 | 2.9 |
| 72 | IRON AND STEEL | 14.486.103 | 4.0 |
| 73 | ARTICLES OF IRON OR STEEL | 44,554,182 | 12.4 |
| 76 | ALUMINIUM AND ARTICLES THEREOF | 4,316,245 | 1.2 |
| 84 | BOILIERS, MCHY & MECH APPLIANCE; PARTS | 61.178.376 | 17.0 |
| 85 | ELECTRICAL MCHY EQUIP PARTS THEREOF; SOUND RECORDER ETC | 70,604,216 | 19.6 |
| 86 | RAILW/TRAMW LOCOM, ROLLING-STOCK & PARTS THEREOF; ETC | 8,103,211 | 2.3 |
| 87 | VEHICLES O/T RAILW/TRAMW ROLL-STOCK, PTS & ACCESSORIES | 32.311.865 | 9.0 |
| 94 | FURNITURE; BEDDING, MATTRESS, MATT SUPPORT, CUSHION ETC | 8,767,033 | 2.4 |
| | Others | 55,854,962.4 | 15.5 |
| | TOTAL | 359.817.642 | 100.0 |

**Source : Central Bureau of Statistics (CBS), Khartoum, Sudan**

**Figure 1:**

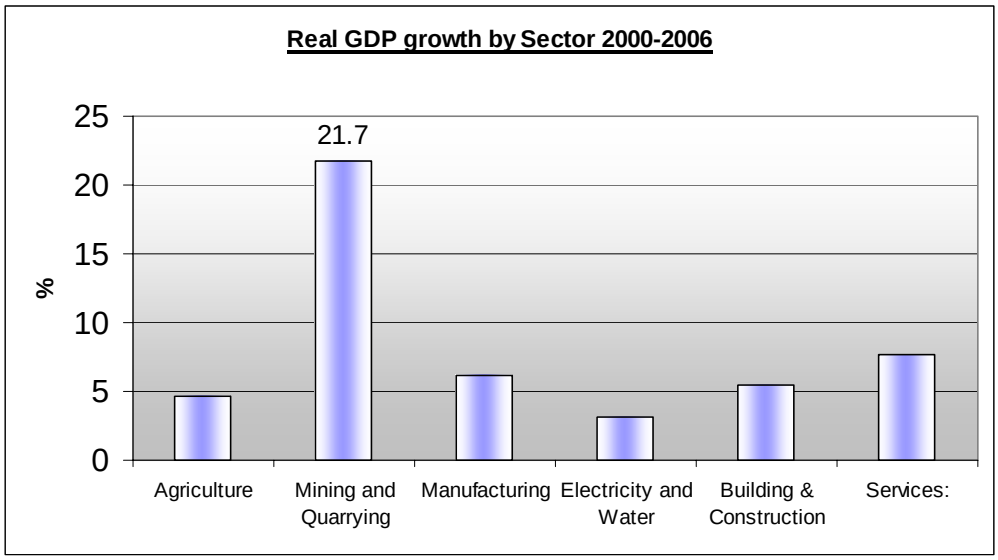


**Figure 2:**

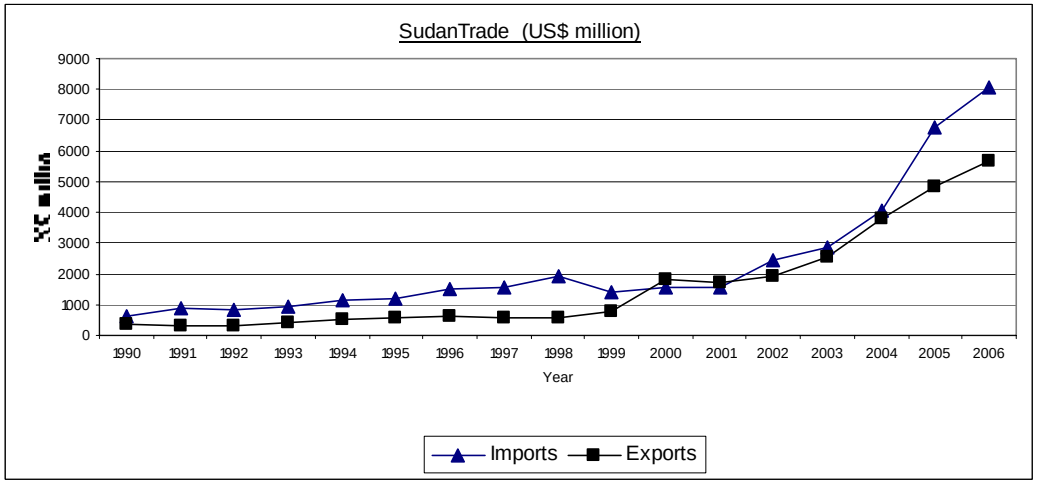

**Figure 3: Sudan Trade with China**

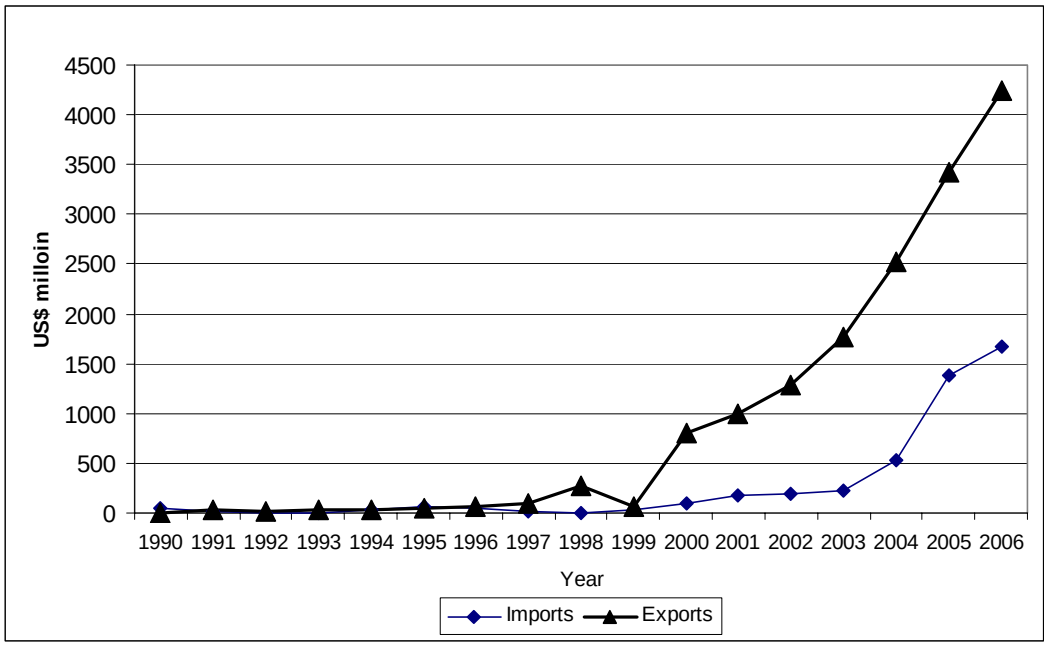


**Figure 4:**

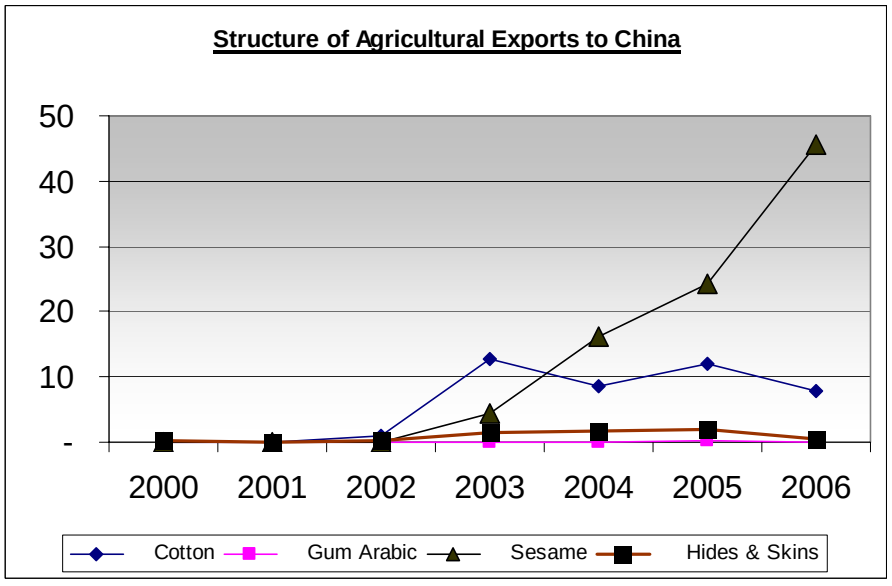

**Figure 5: Sudan Imports by commodity 2000 – 2006 (%)**

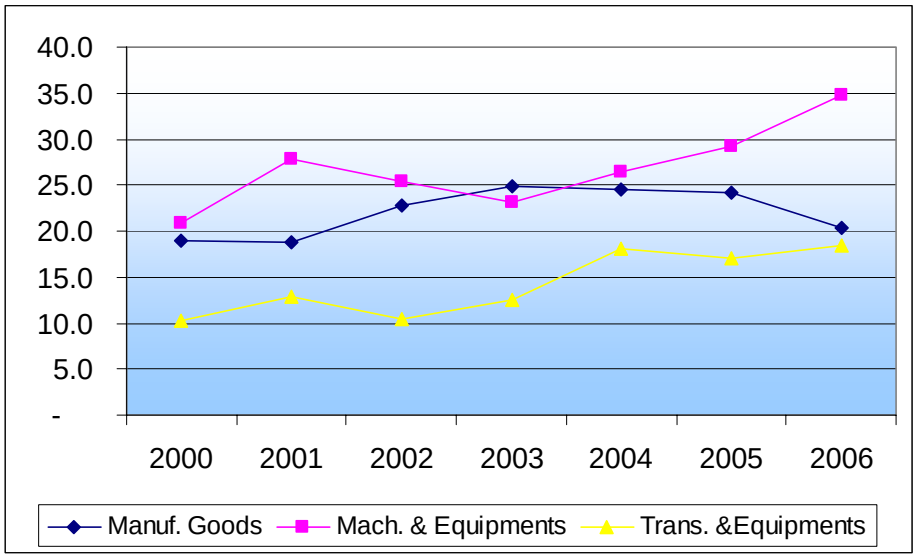


**Figure 6: China share in Sudan imports**

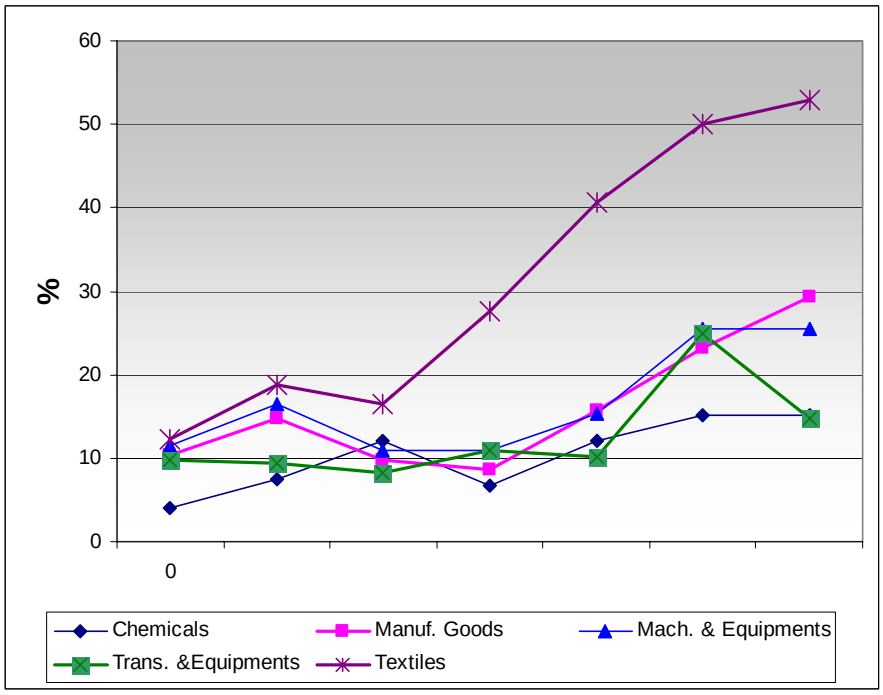

**Figure 7: Foreign Direct Investment Composition 2000-2007**

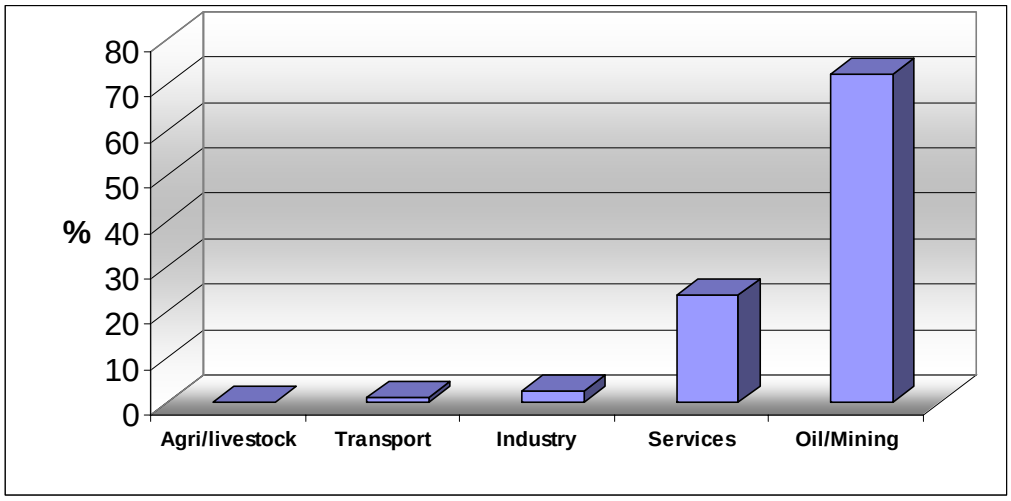


**Figure 8: Loans and Grants 2002-2006**