



Market study

Plastic industry in Libya

September 2010

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1- Location



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2-Introduction

Libya is situated on the coast of North Africa. It borders with Egypt in the east, Sudan in the southeast, Chad and Niger in the south, Algeria to the west and Tunisia in the northwest and the Mediterranean Sea in the north.

The main geographical areas are Tripolitania, Cyrenaica, and Fezzan.

The Green Mountain (Jabal Akhdar) contains three of Libya's leading cities - Benghazi, El Bayda and Derna.

The Fezzan is largely a series of depressions with occasional oases. There are no perennial rivers in the whole country.

General Information

Currency	Libyan Dinar (LD)
Fiscal year	calendar year
Trade organizations	OPEC, Common Market for Eastern and Southern Africa
GDP	\$91.1 billion (2008)
GDP growth	1.8% (2008)
GDP per capita	\$14,381 (2008)
GDP by sector	Agriculture (7.6%), industry (49.9%), services (42.5%)
Inflation (CPI)	Less than 3% (2008 est.)
Population	NA% (2008 est.)
Labour force	1.64 million (includes unemployed) (2008)
Labour force	Agriculture 17%, industry 23%, services and government

by occupation	59% (2004 est.)
Unemployment	21% (2008)
Main industries	petroleum, steel, iron, food processing, textiles, cement
Exports	\$30.79 billion (f.o.b., 2008)
Export goods	crude oil, refined petroleum products, natural gas
Main export partners	Italy 37.2%, Germany 16.6%, Spain 11.8%, Turkey 7.1%, France 6.2% (2008)
Imports	\$10.82 billion (f.o.b., 2008)
Import goods	machinery, transport equipment, semi-finished goods, food, consumer products
Main import partners	Italy 25.2%, Germany 11%, South Korea 6%, UK 5.4%, Tunisia 4.7%, Turkey 4.6% (2008)
Public debt	\$4.267 billion (2008)
Revenues	\$25.34 billion
Expenses	\$15.47 billion, including capital expenditures of \$5.6 billion (2008)

3- Overview of plastic sector in Libya

3-1 Oil Sector

Libya is an OPEC member and holds the largest proven oil reserves in Africa. About 80% of Libya's proven oil reserves are located in the Sirte Basin, which is responsible for 90% of the country's oil output.

The state-owned National Oil Corporation (NOC) dominates Libya's oil industry, along with smaller subsidiaries, which combined account for around 50% of the country's oil output.

Among NOC's subsidiaries, the largest oil producer is the Waha Oil Company (WOC), followed by the Agoco, Zueitina Oil Company (ZOC), and Sirte Oil Company (SOC).

Statistic	Amount
Proven Oil Reserves (2007E)	41.5 b/bbl
Oil Production (2006E)	1.8 mmbd (95% crude)
Oil Consumption (2006E)	284,000 bbl/d (45,200 m ³ /d)
Net Oil Exports (2006E)	1,525 Mbpd
Crude Oil Distillation Capacity (2006E)	378 Mbpd
Proven Natural Gas Reserves (2007E)	52.7 tcf
Natural Gas Production (2006E)	399×10 ⁹ cu ft (1.13×10 ¹⁰ m ³)
Natural Gas consumption (2005E)	206×10 ⁹ cu ft (5.8×10 ⁹ m ³)

Notes: 1. Energy Information Administration (2007)

3-2 Labor market

Libya posted a 3.3% rate of population growth during 1960-2003. In 2003, 86% of the population was urban, compared to 45% in 1970.

Unemployment is reportedly acute: over 50% of the population under the age of 20.

Moreover, despite the bias of labor market regulations favoring Libyan workers.

However, because of shortages of manual labor, Libya has also attracted important numbers of less skilled immigrants.

Expatriate workers represent an estimated fifth of the labor force.

They tend to earn relatively high wages, taking either skilled or hard manual jobs.

3-3 Petrochemicals in Libya

The petrochemicals industry is centered at the Marsa al-Brega plant, which produces methanol, ammonia, and urea. Its production of urea and ammonia far exceeds domestic demand. A major plant producing ethylene, propylene, and butane was opened at Ras Lanuf in 1987.

A second phase of the Ras Lanuf complex was to produce benzene, butadiene, methyl tertiary butyl ether (MTBE), and butane-1.

The plastics industry in Libya comprises polymer production, polymer processing and polymer conversion.

1- Libya - petrochemical complex at Abu Kammash

Which produces ethylene dichloride (EDC) (around 104,000 t/y), VCM (around 60,000 t/y) and PVC (around 60,000 t/y).

It is based on the utilization of brine from Sebkhah, which is located in the North West of the Great Socialist People's Libyan Arab Jamahiriya.

The Chemical Complex provides the total demand of salt for Libya.

GCCI influences the development and growth of other industries and hence leads to the industrial growth of the country as a whole.

These high quality, competitively priced products are also exported to international markets.

- **Products**

Poly vinyl Chloride, Caustic Soda, Table Salt, Chlorine, hydrochloric Acid,

Sodium Hydrochlorite

- **Contact information:**

General Company For Chemical Industries, Abu Kammash complex, Zuara, Libya

P.O. Box 411/100, Zuara, Libya. Telephone: +218 213615181-5.

Fax: +218 213609433.

e-mail: gcci-abukamash@gcci.ly

Chairman: Mr. Mohammed S. Saad.

2 - Ras Lanuf Oil and Gas Processing Company (Rasco) :

Was due to be commissioned in 1997. There were plans to produce LDPE (50,000 t/y), HDPE (80,000 t/y), PP (68,000 t/y).

The plant has two symmetrical production lines, one for HDPE and one for LLDPE each has 80,000 t/y capacities.

Either of the two is capable of producing HDPE or LLDPE
Polyethylene is a product of the polymerization of ethylene gas.

HDPE and LLDPE are used for the following Film grade, Blow molding grade, Injection molding grade, Piping grade and Cable and wire insulation grade.

Other applications such as antifreeze bottles, bleach bottles, household and industrial chemical containers, whose parts require gloss and rigidity.

Also in the manufacture of crates, cases, pallets, film, for heavy-duty packaging and high strength blow film, for produce bags, for agricultural and industrial film clarity and comply with food additive regulations and it may be used in all food contact applications.

- **Contact Information**

Address: Ras-Lanuf – Libya

P.O BOX 2323 Tripoli Libya, GSPLAJ

Phone: (+218)21- 3605177 to 82 (+218)61- 2230271 to 78 Fax : (+ 218)21- 3605174

www.raslanuf.ly info@raslanuf.ly

3-4 Structure of the plastic sector

1- Public sector started at the seventies from the last Century, some of these companies still working with lower capacity like:

- EL-ENMAA PIPE MANUFACTURING COMPANY,
- AL ENMAA FOR WIRES& CABLES,
- AL ZAHF AL AKHDER, AND OTHERS ARE CLOSED LIKE:
- GENERAL COMPANY FOR PLASTIC INDUSTRY (BENGHAZI),
- GARYOUNIS FOR ELECTRIC INDUSTRY.

2- The private sector consists of family businesses and small cooperative enterprises, called "Tasharukia" began in the eighties of the last century with a few companies, such as ABD

ELSALAM BARBOSHI (EZAYTUNA INDUSTRIAL TASHARUKIA), AMMAN PLASTIC,
BUDABUS INDUSTRIES PLASTIC.

At the beginning of this century, there were high growth rates after changing Libyan politics.

3-5 - Structure, turnover, number of companies and employees

- Number of plastic manufacturing companies :

The total number of companies all over Libya is about 120 divided as:

- 20 big companies
- 40 medium companies
- 60 small companies

- Turnover

The turnover for the visited 24 companies (see enclosed sheets) is 297.7 million \$ = 70% of the total turnover, so the total turnover in plastic sector could be estimated at about 425 million \$.

- Employees

Number of employees in companies that have been visited is 2,370, representing 30% of the total workforce, so the total number of Employees should be about 7,900, divided as following: 50% Libyans, 20% Egyptians, 20% Africans, 5% Tunisians, 5% Chinese & others.

4-1 The main Libyan plastics processing companies according to activity

Activity	Main processing companies
PVC pipes	1- EL-ENMAA PIPE MANUFACTURING CO. 2- ALMUTAMAYZA JOINT-STOCK CO. 3- ADASCO PIPES FACTORY
PE blown film for shopping bags	1- ANWAR AL MADINA CO. 2- EZAYTUNA INDUSTRIAL TASHARUKIA 3- EL-GHAWAIL FACTORIES 4- SALIM YOUNES FOR PLASTIC 5- INDUSTRIAL GROUP FOR PLASTIC
PE houseware	1- EL GHWEL PLASTIC, 2- AL-EBREEK FOR PLASTIC IND. AND ELHELAL FACTORY 3- ALI BIN SALEM, 4- EL KRZAZ FACTORY 5- EZAYTUNA INDUSTRIAL TASHARUKIA
PET bottles	1- EL GHWEL PLASTIC 2- BUDABUS FOR PLASTIC TRADING MANUFACTURING 3- EL SHATT FACTORY 4- AL SHARK FOR PLASTIC IND. 5- ABU BAKR EL LAZIZ
PE pipes	1- ADASCO PIPES FACTORY 2- ALMUTAMAYZA JOINT-STOCK CO. 3- EL-ENMA PIPE MANUFACTURING CO.
PE water tanks	1- AL SHOROK FOR PLASTIC (UP TO 20,000 l) 2- AL EMAN FOR WATER TANKS (UP TO 5,000 l) 3- AL SHARK FOR WATER TANKS (UP TO 3,000 l)
HIPS thermoforming	1- AMAN PLASTIC MANUFACTURER
PVC window profiles	1- AL ZAHF AL AKHDER 2- MOULUREX (SALAH OMRAN FOR PLASTIC IND.)
PVC cables	1- AL ENMAA FOR WIRES& CABLES 2- AHMED EL SHAREEF FOR WIRE IND. 3- EL MANAR FOR WIRE IND.
PU foam	1- AL RABEEA FOAM FACTORY 2- AL RAHA 3- AL AHLAM
Tires (rubber)	1- AMAN TYRES CO.

4-2- List of most important plastic companies (see enclosed sheets for references)

Name of the company	Activity
ADASCO PIPES FACTORY	HDPE pipes
ANWAR AL MADINA CO.	blown film
AL ENMAA FOR WIRES & CABLES	wires and cables
AL SHOROK FOR PLASTIC	PE water tanks (rotational molding)
AL SHARK FOR PLASTIC INDUSTRY	blow molded PE containers, PET preforms
AL WISSAM FOR BAGS & PACKAGING MATERIAL	HDPE, LDPE, PP film
HOURAS PLAST (AL-SADA AL TGARY)	PET recycling
ELFALAH PLASTIC FACTORY	PVC pipes conduit system
AL RAHA	sponge and medical mattresses (PU FOAM)
AL SALAMAH	PE pipes for irrigation, containers and boxes
TASHARKIA-RANYA-FOR-SOAP AND CLEANING MATERIAL	PE blow molded containers
ALDOBEAA SONS	PE bags, agriculture film
EZAYTUNA INDUSTRIAL TASHARUKIA	PE bags, agriculture film, injection moulding for chairs and tables
ALMUTAMAYZA JOINT-STOCK CO.	PE pipes, u-PVC pipes
EL-ENMA PIPE MANUFACTURING CO.	PE pipes, u-PVC pipes and accessories
AMAN PLASTIC MANUFACTURER	injection moulding for electric components, flexible pipes PPR system, thermoformed products
EL-GHAWAIL FACTORIES	PE bags
BUDABUS FOR PLASTIC TRADING MANUFACTURING	blow molded containers, PET preform and bottles

Name of the company	Activity
AL-EBREEK FOR PLASTIC INDUSTRIES AND ELHELAL	blow molded containers 5/20/60 l, injection moulding of houseware
AL RABEEA FOAM FACTORY	sponge and medical mattresses, PU foam
AL ZAHF AL AKHDER	PVC window profiles
SALIM YOUNES FOR PLASTIC	PE bags, blown film
EL GHWEL PLASTIC	PET bottles, houseware, blown film
MOULUREX (SALAH OMRAN FOR PLASTIC IND.)	PVC window profiles

4-3- List of most important plastic companies (not surveyed in the present study)

Name of the company	Activity
<p>INDUSTRIAL GROUP FOR PLASTIC Ain Zara, Wadii Al Rabia Road Tripoli P.O. box 82969, postal code 82969 phone: +218 91 3210969 fax: +218 91 213351547 e-mail: alwane@yahoo.com Contact person: Mohamed Alowan</p>	<p>plastic bags</p>
<p>ALKORASHI FOR PLASTIC MANUFACTURING Tripoli phone: +218 91 3393933 fax: +218 21 3616324 e-mail: info@alkorashi.com www.alkorashi.com Contact person: Anis Buazzi</p>	<p>injection moulding, recycling</p>
<p>TASHARUKIAT GERGARESH Tripoli</p>	<p>PE pipes</p>
<p>GENERAL WIRES AND ELECTRICAL PRODUCT COMPANY Air Port Road Benghazi phone: +218 61 2238126/147</p>	<p>cables and wires</p>

Name of the company	Activity
<p>AL GARAHBOLI COMPLEX FOAM AND PLASTIC PRODUCTION</p> <p>Tripoli</p> <p>phone: +218 21 6622829-6620750</p> <p>e-mail: Plastic_foam_alg@yahoo.com</p> <p>Contact person: Abu Bakr Abu El Kasim El Hesnawy</p>	
<p>ABU BAKR EL LAZIZ</p> <p>Misurata</p> <p>phone +218 91 2123738</p>	PET performs
<p>EL KRZAZ FACTORY</p> <p>Misurata</p> <p>phone +218 91 2121670</p> <p>Contact person: Abu Reseal</p>	houseware, injection molding
<p>ENABA FACTORY</p> <p>Misurata</p> <p>phone: +218 91 3241415</p> <p>Contact person: Essam Mkadah</p>	
<p>EL GAWDA FOR PLASTIC</p> <p>Misurata</p> <p>Contact person: Mohamed Ezooza</p>	PVC pipes, PP props
<p>MUSTAFA GARGOURA</p> <p>Misurata</p> <p>phone +218 91 2134839</p>	PVC pipes
<p>EL SHATT FACTORY</p> <p>Geziz - Misurata</p> <p>Contact person: Fahmy El Toney</p>	PET performs

Name of the company	Activity
EL FENDY FOR PIPES Ganzour - Tripoli Contact person: Abdul Hammed El Fendy	PVC pipes 32–400 mm 500 ton/year
SALEM ASSMAN Ganzour - Tripoli	PVC pipes
ALI BIN SALEM Qasr El Akhyar east of Tripoli phone +218 91 2132777	houseware (injection and blow molding)
MOHAMED MOTEER 40 km east of Tripoli phone +218 91 2186736	injection molded houseware
EL BAYAN FOR PLASTIC INDUSTRY Benghazi phone +218 61 2240162	injection molded houseware
TASHARUKIAT EL NAHLA Benghazi phone +218 91 9024060	blow molding
AMAN TYRES COMPANY P.O. Box 30703 Tajoura Tripoli phone +218 21 3705089 fax +218 21 3705111 e-mail: marketing@amantyres.com	tires

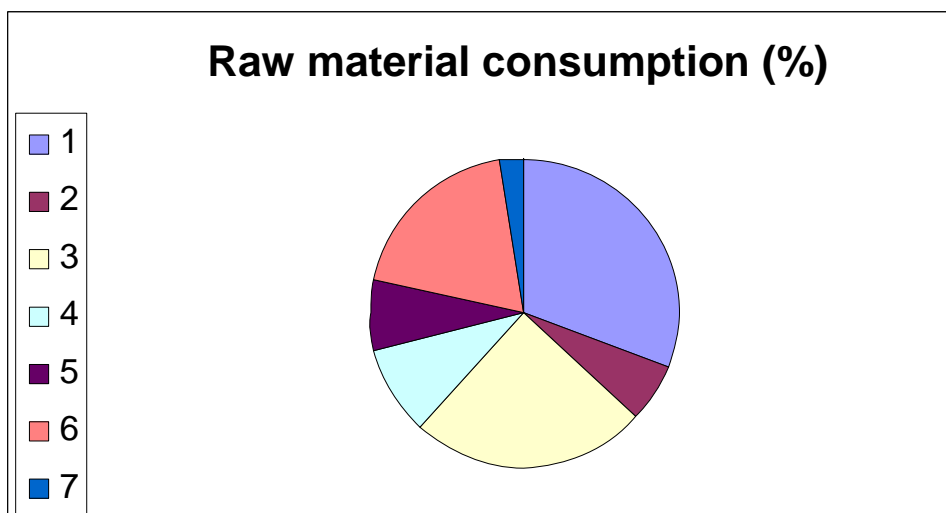
Name of the company	Activity
AHMED EL SHAREEF FOR WIRE INDUSTRY Misurata phone +218 51 2720325	electric wires
EL MANAR FOR WIRE INDUSTRY Misurata phone +218 91 2135366	electric wires

General notes about surveyed companies (see enclosed sheets):

- 1- Some companies remove the equipment name plate to avoid any competitor to copy the same equipment and with our experience we get the brand except the Chinese machines
- 2- some companies needs to invest in new standard Europeans extrusion machines (ADASCO, ALMUTAMAYZA JOINT-STOCK CO., EL-ENMA PIPE MANUFACTURING CO.)
- 3- there is big consumption in all plastic packaging materials: plastic bottle especially PET. Some companies needs to invest in new standard European injection and blow moulding machines (EI GHWEL PLASTIC, BUDABUS FOR PLASTIC TRADING MANUFACTURING)
- 4- the biggest company for thermoforming is AMAN plastic manufacturer (all machines the have are Italian an also the new investment will be Italian made)
- 5- for shopping bags there are a lot of companies and they prefer the Far East machines (Taiwan, China, Malaysia) the new investment will be mainly from Taiwan
- 6- there is a demand of PU foam and the companies (AL RAHA and AL RABEEA FOAM FACTORY) need to invest in new Europeans machines
- 7- the small companies for recycling need cheap recycling equipments for especially PET bottles.

5- Raw material consumption 2010 (ton)

	PE-HD	PE-LD	PVC	PP	PET	PU	Others PS,ABS
Consumption for companies that have been visited	23,940	5,580	29,700	8,850	6,480	15,000	1,000
Estimated total consumption	40,000	8,000	32,000	12,000	10,000	20,000	3,000
Total	125,000						



1-HDPE, 2-LDPE, 3-PVC, 4-PP, 5-PET, 6-PU, 7-PS

Main products and consumption

Product	Consumption (ton)
1- PVC pipes	24,000
2- PE blown film for shopping bags HD+LD	18,000
3- PE houseware	15,000
4- PET bottles	10,000
5- PE pipes	10,000
6- PE water tanks	4,000
7- HIPS thermoforming	2,000
8- PVC window profiles	3,000
9- PVC cables	5,000
10- PU foam	15,000
11- PE blown film for agriculture	2,000
12- injection products, agriculture, building etc.	5,000
12- others	12,000
total	125,000

6-1 Import of machinery (2008)

Code n.	Item	Value in LD	Value in US\$
8420 1050	calenders	350,180	230,907
8443 3000	flexographic printing machines	743,165	571,665
8444 0000	machines for extruding, drawing, texturing cutting manmade textile materials	50,182	38,601
8477 1000	injection moulding machines	778,512	598,855
8477 2000	extruders	172,887	132,990
8477 3000	blow moulding machines	2,011,731	1,547,485
8477 4000	thermoforming machines	1,166,407	897,236
8477 5100	presses for tyres and inner tubes	365,232	280,947
8477 5910	machinery for moulding or forming	997,495	767,303
8477 8000	other machinery for working rubber or plastics	1,930,512	1,485,009
8477 9000	parts	1,729,313	1,330,240
8480 7100	moulds	273,109	21,083
8480 7900	moulds, others	3,351,672	2,578,209

6-2 Import of plastic raw materials (2008)

Code no.	Item	Value in ton
3901	polymers of ethylene in primary forms	10,128
3902	polymers of propylene or of other olefins, in primary forms	18,649
3903	polymers of styrene, in primary forms	1,880
3904	polymers of vinyl chloride or of other halogenated olefins in primary forms	277,063
3905	polymers of vinyl acetate or of other vinyl esters in primary forms, other vinyl polymers in primary forms	1,615
3906	acrylic polymers in primary forms	2,137
3907	polyacetals, other polyester and epoxide resins in primary forms, polycarbonates, alkyd resins, polyallyl esters and other polyesters in primary forms	1,062
3908	polyammides in primary forms	468
3909	amino-resins, phenolic resins and polyurethanes, in primary forms.	1,574

6-3 Import of plastics products (2008)

Code no.	Item	volume, ton	Value in L.D.	Value in 000 US\$
3917	pipes, hoses etc.	82,314	62,561,851	41,240
3918	floor and wall coverings	1,227	5,701,137	75,629
3919	plates	1,469	13,310,918	2,849
3920	sheets	4,403	13,310,918	7,389
3921	films	1,157	3,063,973	2,365
3922	bath tubs and containers	420	2,132,850	1,640
3923	bottles, bags and containers	6,836	23,539,695	18,107
3924	kitchenware and other household items	332	1,727,530	1,328
3925	windows, doors and other building elements	883	8,337,328	6,413
3926	other plastics articles (office production decoration, components etc.)	936	5,652,199	4,347

6-4 Import of rubber products (2008)

Code no.	Item	volume, ton	Value in L.D.	Value in 000 US\$
4005	unvulcanized rubber in plates, sheets and strips	162,514	503,136	387
4006	unvulcanized rubber in other forms	97,347	281,668	216
4007	threads and cords of vulcanized rubber	250,003	532,449	409
4008	vulcanized rubber in plates, sheets and strips	328,634	2,390,845	1,839
4009	tubes, pipes and hoses	2,140,385	6,395,691	4,919
4010	conveyor and transmission belts	1,398,856	5,996,254	4,612,300
4011	new pneumatic tyres	1,291,149	58,492,434	44,994,180
4012	retreated tyres	15,660	510,801	392
4013	inner tubes	213,588	708,566	545
4014	hygienic and pharmaceutical articles	41,804	135,418	104
4015	articles and apparel of clothing accessories	111,286	1,498,132	1,152,400
4016	other vulcanized rubber articles	2,877,549	9,637,215	7,413,240
4017	hard rubber in any form (ebonite)	15,797	53,647	41

Notes

- 1- Total consumption of PE = 50 KT
- 2- Total production of PE = 126 KT (78.5% from the full capacity of Ras Lanuf Company)
- 3- There is no export of PVC due to the production of Abu Kammash complex is decreased to 30 KT just cover the local market needs

7- Opportunities and promising areas in the market

- 1- The growth of Libyan economy is high (depends on exportation of oil and the new projects in infrastructure so the demand for plastic pipes and other plastic products related to the buildings (window profiles, electric box etc. will increase)
- 2- As already said, Libyan companies (ADASCO, ALMUTAMAYZA JOINT-STOCK CO, EL-ENMA PIPE MANUFACTURING COMPANY) will be interested to purchase high quality extrusion machines from Europe
- 3- Due to the increase of the consumption habits of the Libyans, the packaging materials and containers will increase (blow molding, thermoforming cups, PET bottles).
Some companies will make investment in new injection and blowing machines from Europe, like EL GHWEL PLASTIC, BUDABUS FOR PLASTIC TRADING MANUFACTURING
- 4- The government allowed the establishment of joint ventures
- 5- As already said, the biggest company for thermoforming is AMAN plastic manufacturer (all machines they have are Italian and also the new investment will be Italian made)
- 6- As already said, there is a demand of PU foam, and the companies ALRAHA and AL RABEEA FOAM FACTORY need to invest in new machines from Europe
- 7- There is a lot of demand to all kind of pipes due to huge projects in water and sewage network for the new infra structure projects.

8- Problems and threats

- 1- Weakness in the system information on the Libyan companies
- 2- The banking system under construction
- 3- Even non-application of the laws
- 4- Shortage of skilled labours. They need training courses in polymer science and processing of plastic: injection moulding, blow moulding, extrusion (pipes & film), and thermoforming etc. the required training on site or in Italy
- 5- Long bureaucratic procedures
- 6- Local industry of raw material is HDPE, LLDPE and PVC are not enough for the plastic market. All other raw material is imported from abroad, so the price of the final products will not be comparatives (as an example: there is a lot of imported of PET preform from Turkey)
- 7- The Libyan standards do not cover most of the products.
There is a testing laboratory at Tripoli that make tests of samples for governmental tenders only (ENGINEERING TECHNOLOGIES COMPANY – polymers technology research sector – e-mail: info@etc.com.ly)
- 8- The import of plastic products is opened, the main exporters, Italy, Turkey, Tunisia, Egypt
- 9- There are a lot of companies for shopping bags and they prefer the Far East machines (Taiwan, China, Malaysia); the new machines in this sector will be mainly from Taiwan
- 10- The small companies for recycling need cheap recycling equipments especially for PET bottles.

9 - Forecast of rate of growing:

We expect the growth rate of plastic processing sector about 6% during the next 5 years