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**An overview of grains and feed market in Libya**

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## INTRODUCTION

Over the last fifty years the world food production has grown slowly, the world population is growing rapidly and faster and is estimated to reach 9.6 billion by the year 2050 (FAO).

Chronic hunger on the world is high , nearly 1 billion of the world population are classified as hungry .

With this increasing world population , growing scarcity of natural resources and acceleration climate changes the road towards sustainable food security is increasingly challenging .

Solutions need to be found to produce more with less resources and guarantee food for all .

PART 1

## WHEAT PRODUCTION IN LIBYA



every year The agricultural land receives annual rain fall of at least 300 mm is about 220 thousand hectares and 2.2 million hectares receives about 250 mm of Rain fall per year .

The Libyan economy is completely dependent on oil about 94% of the GNP comes from oil, the share of other sectors is limited.

The level of agriculture production ( specially grains ) does not meet local demand as evidenced by large quantities of grains imported .

### **1- IMPORTANCE OF WHEAT IN LIBYA**

Wheat is viewed as the most valuable commodity in Libya and considered as a main ingredient in the Libyan diet , 80% of the country food comes from wheat .

The key characteristics which has given it an advantage is the unique properties of dough formed from wheat flour that processed into bread, pasta and couscous which form the Libyan meals .

Wheat bran produced in Libya ( 25% of the grain) is directly transferred to feed plants for the production of concentrated feed , or fed directly to the animals .

These principles reflect the importance of wheat in the Libyan food and the grain industry therefore gained a particular attention and it seems quite rational to have more government focus for food security purposes .

## **2- LOCAL WHEAT PRODUCTION**

Wheat is produced by public sector projects since the early 1970's , these projects were neglected for many reasons and their area diminished and their production becomes less , The government did not pay serious attention to keep their production in high performance . Private sector (local farmers) started to produce wheat in the last years in the southern region which contributed to increasing total production of wheat .

Other grains (yellow corn & sorghum ) are produced in minor quantities in some seasons and used directly for production of compound feed .

In order to increase wheat production and build a strategic reserve of wheat to at least 500 000 tons the following strategies could be followed :

- 1- Rehabilitation of existing wheat projects by more investments and expansion in a new locations where soil and water resources permits .
- 2-Exploring opportunities for producing more grains in countries with abundant agricultural resources under joint-investment programs .
- 3- Support the small farmers to produce more wheat all over the country .

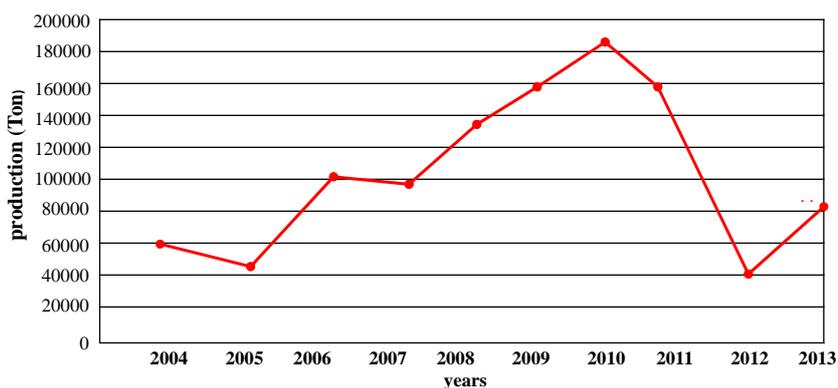
## LOCAL WHEAT PRODUCTION

TABLE (1)

LOCAL PRODUCTION OF WHEAT FROM 2004 -2013

(1000 ton)

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
61	48	104	96	135	159	185	160	40	86



### 3- LOCAL WHEAT PRODUCTION & WATER RESOURCES ISSUE

Water is the limiting factor for agriculture in Libya , surface water is limited , the underground water is the only unrenewable source of water in Libya , the rainfall is scarce and infrequent , the annual rainfall ranging between 200-300 mm per year ( it is more in some areas ).

Over exploitation of the fossil ground water resources mostly to meet irrigation demands has already effected the northern aquifers . the increasing pressure on the traditional water resources resulted in sea water intrusion into the costal aquifers.

According to FAO's country profile (2005), the total volume of fresh water that can likely be available for use in Libya is estimated to be about 4000 Million m<sup>3</sup> per year .

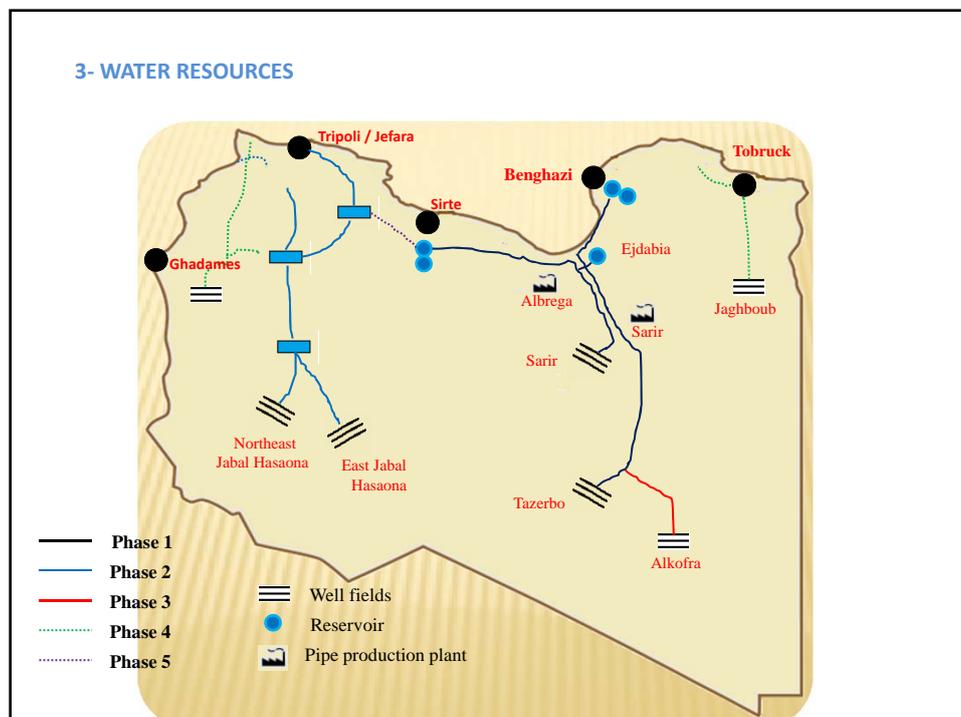
The annual consumption of water for various purposes is estimated at 5000 million m<sup>3</sup>/year .

Other sources of water , but of minor importance the desalination plants which have an estimated capacity of 67 million m<sup>3</sup>/year , and about 44 Million m<sup>3</sup> / year waste water that are treated and used for agriculture .

As a solution the artificial river project was designed to transfer about 5 million m<sup>3</sup> of water /day from the desert to the northern regions .

The aim is to alleviate the severe water needs , 83% used for irrigation 14% for domestic use and 3% for industry , it is only covers 30% of the present domestic water demand .

However , in contrast with limited water resources the variable production of two major important cereals ( wheat & barley ) does not satisfy the local needs .



## PART 2

**DEMAND OF WHEAT IN LIBYA**

Libya is a major importer of grains specially wheat (84%) of the grain domestic utilization is imported from outside ( 73% as wheat ),( 12% barley), (9% yellow corn) and (6% rice)

**1- Estimation of wheat demand**

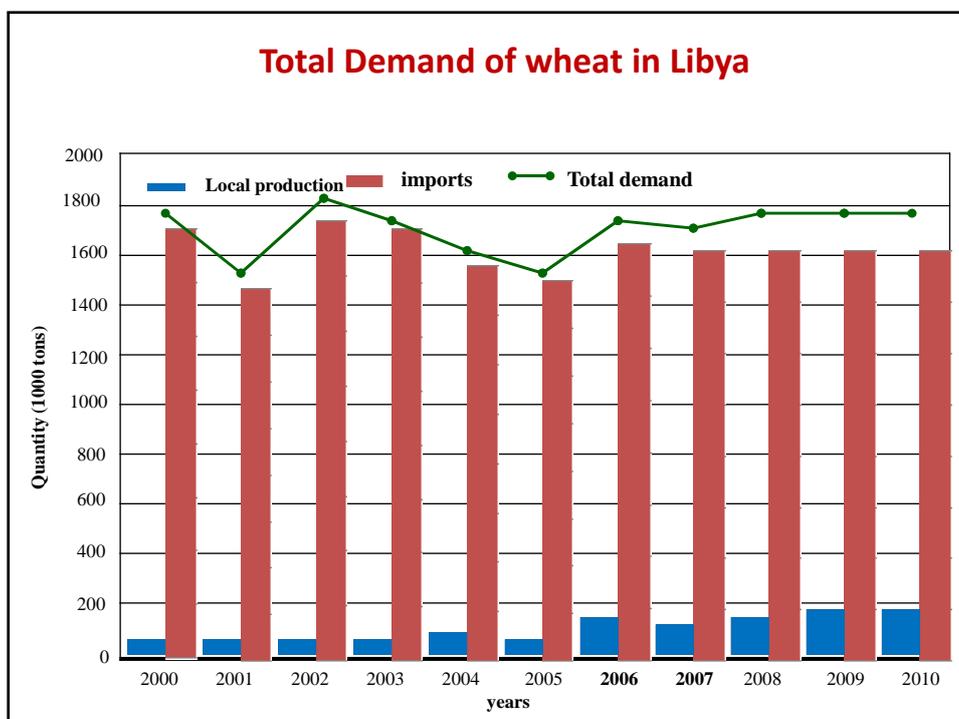
Year	Hard wheat (Tons)	Soft wheat (Tons)	Total (Tons)
2015	610,790.769	1,482,185.333	2,092,976.102
2016	621,378.462	1,507,878.667	2,129,257.129
2017	632,160.000	1,534,041.333	2,166,201.333
2018	643,138.462	1,560,684.000	2,203,822.462
2019	654,318.462	1,587,813.333	2,242,131.795
2020	665,703.077	1,615,440.000	2,281,143.077

This wheat demand is based on the wheat subsidized system which might be changed in the future economic policies in Libya .

**2- Estimation of demand for wheat Flour and semolina**

Year	wheat Flour (Tons)	semolina (Tons)
2015	1,111,639.000	397,014.000
2016	1,130,909.000	403,896.000
2017	1,150,531.000	410,904.000
2018	1,170,513.000	418,040.000
2019	1,190,860.000	425,307.000
2020	1,211,580.000	432,707.000

<b>Aggregate demand of wheat</b>											
<b>(Quantities 1000 ton)</b>											
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Local production	64	49	54	46	61	48	104	96	135	159	185
Imports	1693	1483	1768	1691	1552	1509	1620	1600	1600	1600	1600
Total demand	1757	1532	1822	1737	1613	1557	1724	1696	1735	1759	1785



### **3- Milling capacity in Libya**

The Libyan milling industry consists of public and private sector mills , there are 42 flour mills in Libya for soft wheat with a total capacity of 3.04 million Tons soft wheat per year , and 8 semolina mills with a total capacity of 700 thousand Tons hard wheat per year , the public sector capacity represents (23 %) of the total milling capacity for soft wheat while the private sector owns the rest , the public sector capacity represents (40%) of the total milling capacity for hard wheat in Libya. The public sector mills are owned by two big companies (The joint-stock national company for flour Mills & Fodder in Tripoli and the national milling company in Benghazi).

### **4- The storage capacity (silos)**

The total storage capacity of the grain silos in Libya is (500 000) five hundred thousand tons.

The new plans to add more silos should consider to construct such additional capacities near the seaports and nearby the wheat production sites which are mostly located in the south region of the country .

The next table shows grain silos in Libya :

No.	Location	Capacity (Ton)
1.	Tripoli port	40000
1.	Tripoli	20000
1.	Swani (under construction)	100000
1.	Alhashan	30000
1.	Alhera	20000
1.	Misurata port	40000
1.	Waddan	100000
1.	Ajdabia	50000
1.	Alabiar	20000
1.	Albaida	30000
1.	Darna	30000
1.	Tobruk port	10000
1.	Tobruk	10000
<b>TOTAL</b>		<b>500000</b>

### **5- Subsidy policies of essential food products**

In Libya , the main food products are subsidized including wheat flour , semolina , pasta , rice ,vegetable oil , tomato , sugar and tea . The aim is to support the consumer's income and to manage the supply of the main food items .

The level of subsidy differs from commodity to another depending on the rate and pattern of consumption , for example the level of subsidy reaches 95% for wheat flour supplied to the backers and 90% for wheat flour of direct use .

It is 90% for the semolina , 85% for pasta and it is in this range for other commodities .

Libya spent a substantial part of its national budget on subsidies for essential food products .

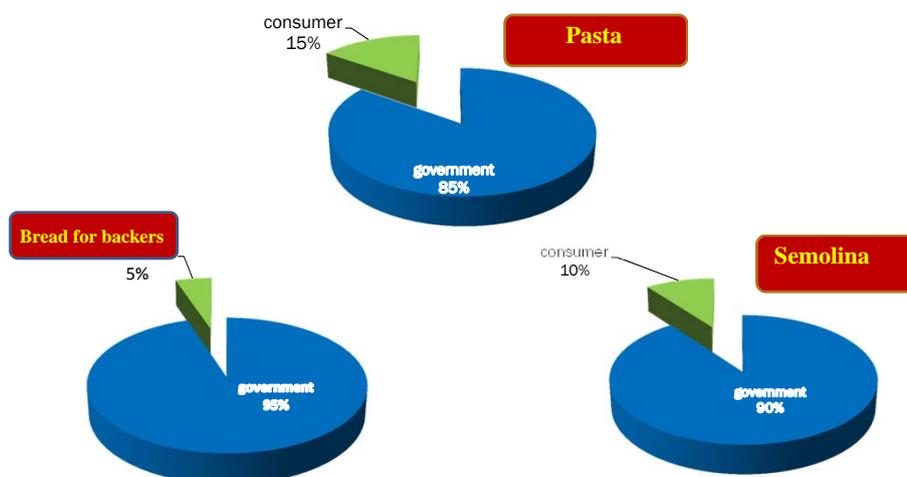
This subsidy costs the Libyan budget more than 3 billion Libyan dinar / year about (2.4) billion \$ / year.

However , on the other hand this policy have a negative impacts, the cheap commodity with easy access losses the real value of the subsidized item , beside the misuse and over consumption of these products and smuggling of the products to the neighboring countries .

Subsidy of the main food items have also lots of marketing drawbacks , it creates economic inefficiency that government pays high prices and the consumer gets the commodity cheap.

Therefore , there is a need to design an economic strategy to treat these impacts and save money and maintain a rational consumption of the food items .

### Subsidy level of essential food products



## PART 3

**FEED INDUSTRY IN LIBYA****1- IMPORTANCE OF CONCENTRATED FEED IN LIBYA**

In Decades to come the demand for livestock products is expected to grow significantly , consumption of food from livestock is projected to increase by 70% by the year 2050 . The livestock sector in Libya is one of the growing parts of the agricultural economy and offers opportunities for agricultural development and food security gains . In Libya like many developing countries livestock keeping is a multifunctional activity which offers a supporting source of income .

Feed industry in Libya represents an essential participant in the food chain that provides sustainable , safe and nutritious food by providing healthy feed .

To accomplish this, our feed plants support the spreading of good manufacturing practices and higher feed safety standards .

This will reflect the importance of feed industry in Libya as to feed the livestock in terms of supporting the animal wealth by supplying feed .

The importance of feed industry comes also form the necessity to secure feed incase of scarcity of green pastures the year around due to low rain fall and to supply feed during the draught seasons

## **2- DEMAND FOR FEED**

The demand for feed in Libya is a derived demand for animal wealth which consists of about (6.5) million sheep & goats , 200 000 camels , 80 000 heads of cattle and varying number of chicken from season to season .

Libya needs about 2 million tons of feed per year for ruminants and poultry (60% for ruminants & 40% for poultry).

The next table shows the Libyan requirements of feedstuffs .....

### **Requirements of feedstuff / year**

Item	Quantity (Tons)
Feed Barley	350400
Yellow corn	896000
Soya Beans	271200
Wheat Bran	391800
Feed Additives	90600

Most of these raw materials are imported from outside ,the raw materials of feed and milling industry are imported according to the Libyan standard specification .

The demand of raw materials is expected to increase by ( 10% ) in the next 5 years to meet the growing demand for animal products .

### **3- SUBSIDY POLICIES FOR ANIMAL FEED**

The cost of animal feed represents about (60%) or more of the cost of livestock production In Libya .

The policies of the government in supporting agricultural inputs include the subsidy of sheep feed , the Libyan breeders are enjoyed by the animal feed subsidy in order to increase their income .

The level of subsidy is (1/3) of the purchase price , but the quantities of feed subsidized every year (200 thousand) tons are not enough to reach all breeders.

### **4- The joint-stock national company for flour Mills & Fodder**



The joint-stock national company for flour mills & fodder was Established in 1973 as a leading producer of food & feed industry in Libya .

The capital of the company is 300 million Libyan dinars(240 million \$) the annual budget exceeds 500 million Libyan dinars (400 million \$).

The recent labor force of the company is 1800 employees .

The company runs the following productive units :

- A. 5 Flour mills with a total capacity of (1710) tons/day .
- B. 3 Semolina mills with a total capacity of (1030) tons/day .
- C. 4 Pasta Factories with a total capacity of (394) tons/day .
- D. 2 couscous production lines with a total capacity of (57) tons/day.
- E. 7 feed plants with a total capacity of (160) tons/hour.

The company also owns some grain silos with a total storage capacity of 220 000 Tons .

The company acts to accomplish its goals by running the factories, providing the raw materials , marketing of the products and to sustain the development of industry .

The total production capacity of the feed plants of the company reaches 500 000 tons / year which represents (25% ) of the total demand of animal feed in the country the rest ( 75%) is supplied by the national milling company and the private sector .



PART 4

## **FUTURE OUTLOOK**

The new plans of the government in the field of agriculture and industry would concentrate , however on improving these two sectors and achieving promising targets .

The concern at this stage should be maintaining the existing units, training of personnel and making better use of the resources .

Standard production levels , better quality and expanding the activities are major objectives .

The agricultural development plans should consider food security as an objective and a national priority by :

- 1- Producing the maximum attainable production of grain (wheat & barley).
- 2- Conservation of natural resources by different measures such as soil reclamation , water harvesting and soil conservation .
- 3-Adopting of technologies that suitable for achieving higher productivity and more efficient resources use .

**The future plans would also cover the following areas :**

- 1- More attention to be paid for research and making better use of new techniques (innovation) in the field of industry and agriculture .
- 2- Evaluating the industrial processes at every stage and executing the resulted recommendations .
- 3- Diversification of activities through initiating a small enterprises which use the wheat products as raw materials .
- 4- Expanding the investments in the field of agriculture and industry for better economic benefits .
- 5- Globalizing the aspects of cooperation with international organizations relevant to the industry .

*The rational and sustainable water use is the issue of great concern to Libyan authorities interested in preserving water resources for the present and future generations .*

**Therefore , there is a great need to improve a system of water resources management including :**

- better use of water resources.
- Application of irrigation techniques that use less amounts of water .
- Execution of more desalination plants.
- Establishing new dams and maintaining the existing ones.

**PART 5**

**RECOMMENDATIONS**

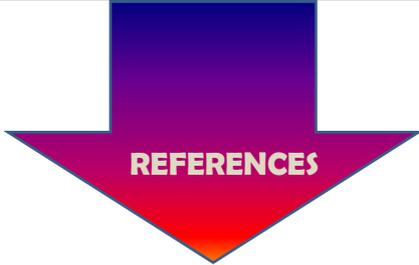
**The most important recommendations that come out of this study are as follow :**

- 1- Since the production capacity of milling& feed industry exceeds the demand the emphasis at this stage should be on consolidation rather than innovation .
- 2- Maintaining the existing grain silos and establishing new silos on the seaports and nearby the wheat production projects in the south .
- 3- Exporting the surplus of wheat products.
- 4- Reconsidering the policy of subsidy of the main food items to allow rationing of these products to change consumption patterns and to avoid misuse and overconsumption .
- 5- Intensification of agricultural extension programs and media communications to bridge the gap between (extension , research findings and farmers).

- 6- Support the small farmers with bank credits .
- 7- More concern should be paid towards the share of private sector in the national economy (privatization) to enhance development and allowing a diversity of sources of income.
- 8- Maintaining the infrastructure should be considered in the new plans of the government .
- 9- More emphasis should be paid for agricultural research to provide the agricultural sector with the technical assistance needed for agricultural development .
- 10- Recognition of the importance of environmental sustainability where the exploitation of agricultural resources can be better in the framework of sustainable environment .

## RECOMMENDATIONS

*On the global level it is recommended to build a consensus on the path toward sustainable intensification by means of producing more units of output per units of all inputs, it also involves improving the physical input-output relations and increasing the efficiency of production .*



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- ➔ 8- FAO data center .

