

STRUCTURE AND COMPETITIVENESS OF THE MILK AND DAIRY SUPPLY CHAIN IN TURKEY

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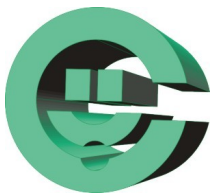
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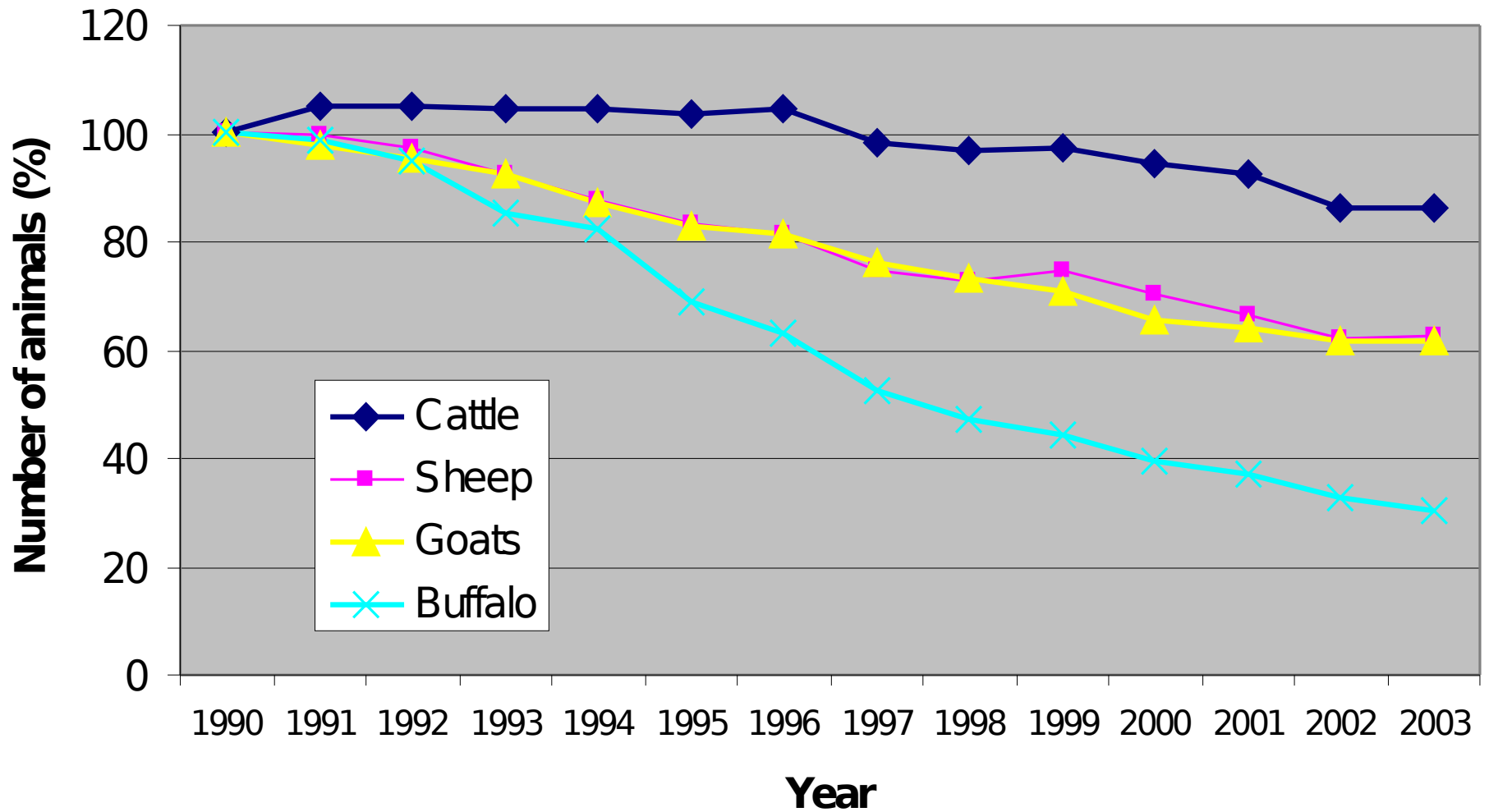


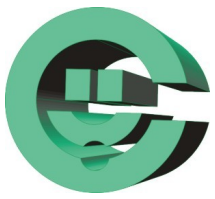
Introduction

- The Turkish livestock sector has displayed two clear trends: **a declining number of animals** and **increasing productivity**.
- Turkey's sheep, goat and cattle numbers were increasing before the 1980s and decreasing thereafter.
- All types of livestock have shown a general decline in numbers since early 1982. The number of sheep declined to **25 millions**. Number of cattle declined to **10.5 millions** in 2005



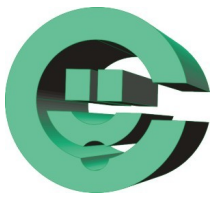
Number of Animals (1990=100)





Yield

- There is a large discrepancy between East and West Turkey in cattle breeds.
- In Eastern Turkey, the local breeds are dominant. For genetics, feeding and many other reasons, their milk yield is very low (< 1000 litres) and are therefore not very attractive for dairy processing.
- In Western Turkey, either pure breeds or cross bred breeds predominate. Their yields are around 6000 litres for the pure breeds and 4000 litres for the cross bred breeds.
- Although the number of cattle milked is decreasing, yield will continue to increase since the percentage of the pure breeds has been increasing.



Farm Holdings

- Farm holdings having less than 10 cattle account for 84 % of the total
- 396 farms having more than 100 cows. Some of these farms are large, for example Koc-Ata-Sancak in South East Anatolia has 2500 cows, Saray in Central Anatolia 1800 cows, Global in Bursa 1200 cows and Dogan in North Sea Region 700.
- Some big dairies have invested in their own farms or they entered into partnerships with large farms.
- The emergence of these farms is very recent, mainly since 2002 and their size tends to increase year by year. Also, new investments are carried out since milk is currently a profitable investment.



Number of Agricultural Holdings Raring Cattle (2001)

<i>Farm Holdings</i>	<i>Number</i>	<i>%</i>
Number of holdings engaged in animal husbandry	2,147,068	69,8
The number of holdings engaged with both crop production and animal husbandry	2,074,439	67,4
The number of holdings engaged with only animal husbandry	72,629	2,4
The number of holdings engaged with fattening of cattle and buffaloes	71,216	2,3
The number of holdings engaged with milk production from cattle and buffaloes	1,746,927	56,8
The number of holdings engaged with fattening of sheep and goat	40,427	1,3
The number of holdings engaged with milk production from sheep and goat	530,151	17,2
Total agricultural holdings in Turkey 2001	3,076,649	100,0



Milk Products Supply and Utilisation (tonnes)

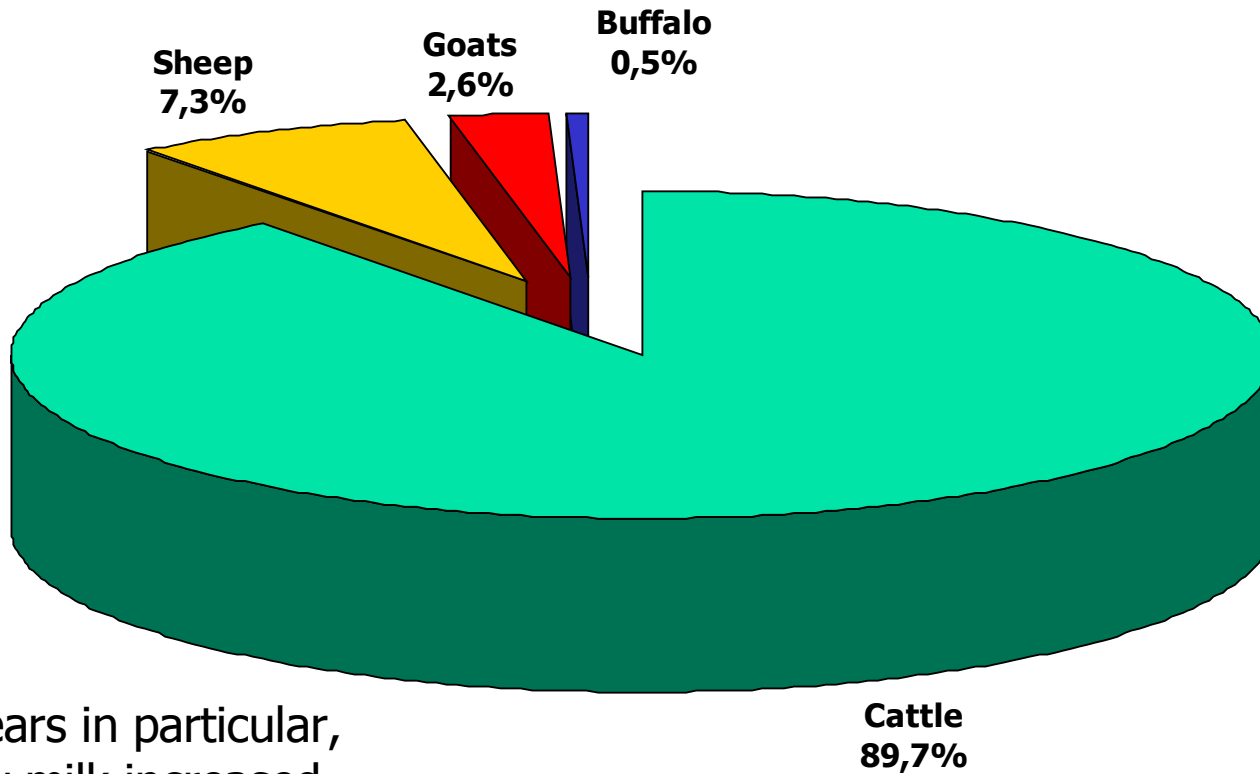
	2002	2003	2004	2005 b	2006 c
SUPPLY					
Beginning Stocks	946,459	918,665	877,869	835,099	793,856
Production (a)	8,422,110	9,271,033	8,850,990	8,919,525	9,136,328
Import	98,599	149,202	153,590	149,891	148,916
Total Supply	9,467,167	10,338,901	9,882,448	9,904,515	10,079,100
UTILISATION					
Total Domestic Use	8,472,816	9,370,517	8,958,943	9,011,307	9,231,345
Milk Products	75,686	90,515	88,406	99,351	101,475
Total Utilisation	8,548,502	9,461,032	9,047,349	9,110,658	9,332,821
Ending Stocks	918,665	877,869	835,099	793,856	746,280
Stock / Use Ratio	10.75	9.28	9.23	8.71	8

(a) All types of products (b) Estimate (c) Projected,
Source: AERI, 2005, Calculations are based on TURKSTAT,

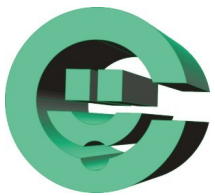


Milk Production Sources

With 10 billion litres of milk produced on average per year, Turkey is among the 15 largest world milk producers.



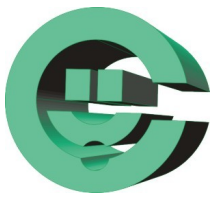
In the last 15 years in particular, the share of cow milk increased constantly whereas buffalo, sheep and goat milk further decreased



Number of Establishments, Capacity and Production (2002)

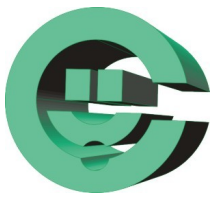


	Number of Establishments	Capacity (Tonnes)	Production (Tonnes)
Sterilised Milk	35	231728	91125,5
Pastorised Milk	48	286629	170645
Aroma Milk	2	11367	6102
Yoghurt	718	1083284,95	613946,83
White Cheese	832	1138536,5	218259,96
Kasar Cheese	552	215056,3	54291,85
Tulum Cheese	194	28666,5	9870,3
Melted Cheese	50	24506	11799
Curd Cheese	197	6506,7	2722,2
Gravyer Cheese	4	120	62
Other Cheese	169	20095	9100,5
Butter Milk	290	1154487,1	1018137,14
Cream	114	15302,4	8656,75
Whey Powder	42	35380	14043,4
Suzme Yoghurt	50	45765	18805
Milk Powder	38	21558	9863,5
Butter	340	107416,5	33546,39
Ice Cream	650	113714,42	18528,78
Total		4555704,37	2320432,3



Dairy Industry

- There are around 2160 processing units in Turkey with different sizes. The biggest one is Ülker with a capacity of 1400 tonnes/day. There are four other big dairies with capacities above 1000 tonnes/day.
- All the large dairies operate very modern factories up to EU standards. The Danone dairy is the most modern dairy of the Middle East. The Ulker dairy is probably the largest one in the Middle East. They process the full range of dairy products.
- The Mandiras, an important part of the Turkish dairy industry, small scale processors in the small towns.
- Most of them process less than 10 tonnes of milk per day under very basic production conditions.
- The Mandiras are located all over Turkey, in the milk production zones and in the remote areas. There is a close relation between the Mandiras and the village community.



Per Capita Consumption (kg)

The average national human consumption is about 140 litres per capita

Products	2002	2003	2004	2005	2006
				(Predicted)	(Forecast)
Drinking Milk	21.00	21.00	21.00	21.00	20.96
Cheese	89.00	93.00	92.00	91.69	93.55
Yoghurt/Butter	32.54	38.88	32.42	31.60	31.04
Milk	17.83	18.20	16.03	18.03	19.11
Butter	2.51	3.41	2.81	2.71	2.60
Milk Powder	132.01	143.90	136.09	136.09	136.09
Icecream	9	5	7	1.02	1.02
Total Milk*				136.20	138.14

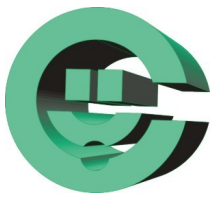
*All milk and dairy products including drinking milk.

Source: AERI calculations based on Turkish Statistical Institute statistics



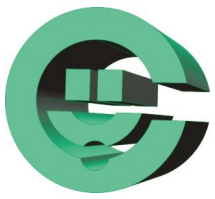
Consumption

- Dairy products are consumed in the form of liquid milk, fermented milk, ayran (a form of liquid yoghurt), different types of cheese and milk powder.
- Liquid milk itself (family consumption and the street milk) is rarely consumed as a drink.
- Most of the liquid (full fat) milk is processed at home into yoghurt.
- The Turkish (set) yoghurt is very widespread and consumed almost any time.
- The white cheese (feta type) is popular for breakfast. The Turkish people also consume significant volumes of ice cream.



...Consumption

- Liquid milk consumption in Turkey seems quite impossible to quantify. There are two reasons for this:
- first the importance of the informal sector composed of the own-consumption and of the streets' milk delivered even in the large cities;
- second is the fact that many consumers process milk within the family into traditional milk products (mostly yoghurt).
- However, milk produced is basically used in four different channels. A large amount of the milk is used by medium size establishments.
- Large and modern establishments use 27 % of the milk. Street milk accounts for 15 %, which is quite high and considered a problem in the Turkish milk supply chain. 20 % of the milk is consumed at farms.



Trade

- Trade in dairy products is very limited in Turkey. The total amount of imports was around US \$60 million and export around US \$54.5 in 2005 for all dairy products.
- Import duties on dairy products are between 100% and 130 %, and no export subsidies are given.
- Milk prices in Turkey are determined by free market conditions but the absence of quality standards and the generally low quality means that the market is not a very efficient one.

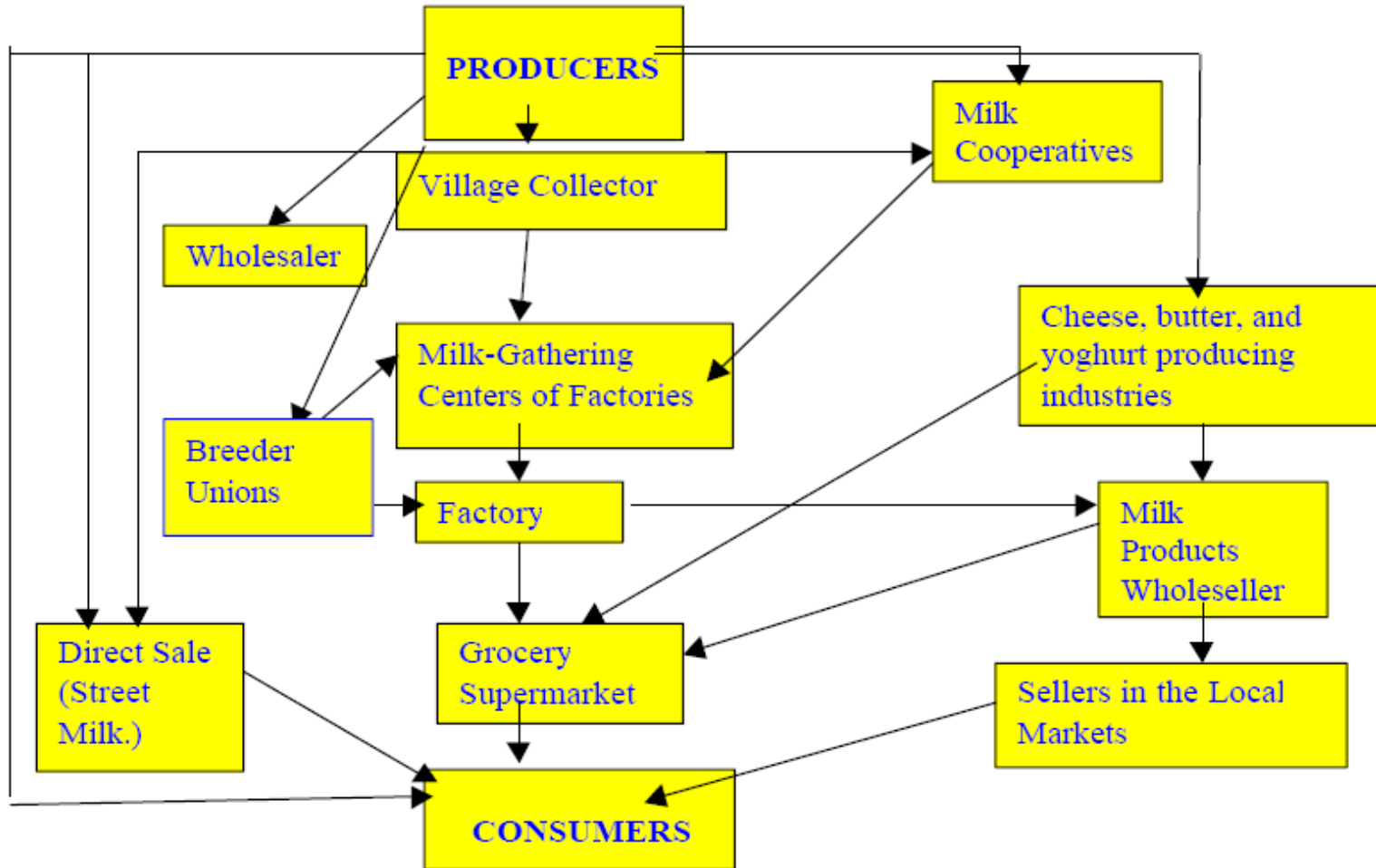


The milk producers in Turkey can be classified into 4 categories:

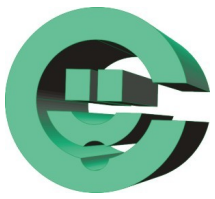
2. **Milk producers for self-sufficiency:** They have 1 or 2 cows; produce agricultural products and some fruit and vegetables. The milk quality is generally poor and the milk is family consumed or locally marketed;
3. **Small producers with between 3 and 10 cows:** This “extended” self-sufficiency and direct sale to neighbouring consumers is the most common situation. Part of the milk can be marketed to a collection centers, to a Mandira or to a small dairy;
4. **Specialised milk producers with between 10 and 50 cows:** The farms are often of medium size and specialised in milk production. The milk producers are relatively young.
5. **Intensive milk producers with over 100 cows:** These can be either private farms or state farms. Most of their milk, which is of high quality, is delivered to a dairy.



Milk and Milk Products Marketing Channels in Turkey



Source : Y, Uysal and I, Mazgit, 1993, "Türkiye Hayvancılık Sektörünün Sorunlarının Çözümüne Yönelik", Yasar Eğitim ve Kültür Vakfı, İzmir,



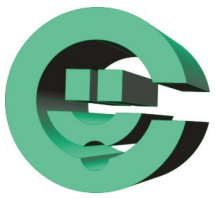
Conclusion

- Turkey has a long tradition of milk production and of consumption of dairy products
- Turkey has a large informal sector composed of family consumption, cottage industry and door to door delivery (the informal system represents about 70% of the milk produced, the industrial system consumes 30% of the milk produced)
- Turkey is neither a large importer nor a large exporter of dairy products, the latter because its products are not competitive in price or quality; a situation that is unlikely to change in the near future.



...Conclusion

- The main problem and probably the source for most of the other problems of the Turkish dairy sector is the high share of the informal market. This is mainly due to the small scale of production throughout the dairy chain
- More than a million Turkish farmers have only 1 or 2 cows, producing basically for own consumption
- In the short term, it is not expected that the low quality problem will be resolved. However, in the long run, especially with the EU entry negotiations, the sector will have to pay more attention to quality and efficiency.



...Conclusion

- Turkey will adapt the EU agricultural policy *acquis* over the period 2005-2015. A significant part of the *acquis* concerns sanitary and phyto-sanitary measures, animal welfare, hygiene standards and food safety.
- Turkey has already made a good start with passing the necessary legislation.
- However, several problems arise in the implementation of the regulations. The creation of an infrastructure to manage the *acquis* is a long and difficult process.



...Conclusion

- The net export will be affected by EU-Accession. Trade liberalisation with the EU will enhance imports more than exports, especially in livestock products, though Turkey could still be a significant net exporter of agricultural products.
- With no trade restriction with EU, livestock imports will increase considerably.
- Livestock production will decline as the largest price falls following trade harmonisation will be experienced in the livestock sector



Thank you very much for patience...

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