

China Agriculture: --Challenge & Countermeasures

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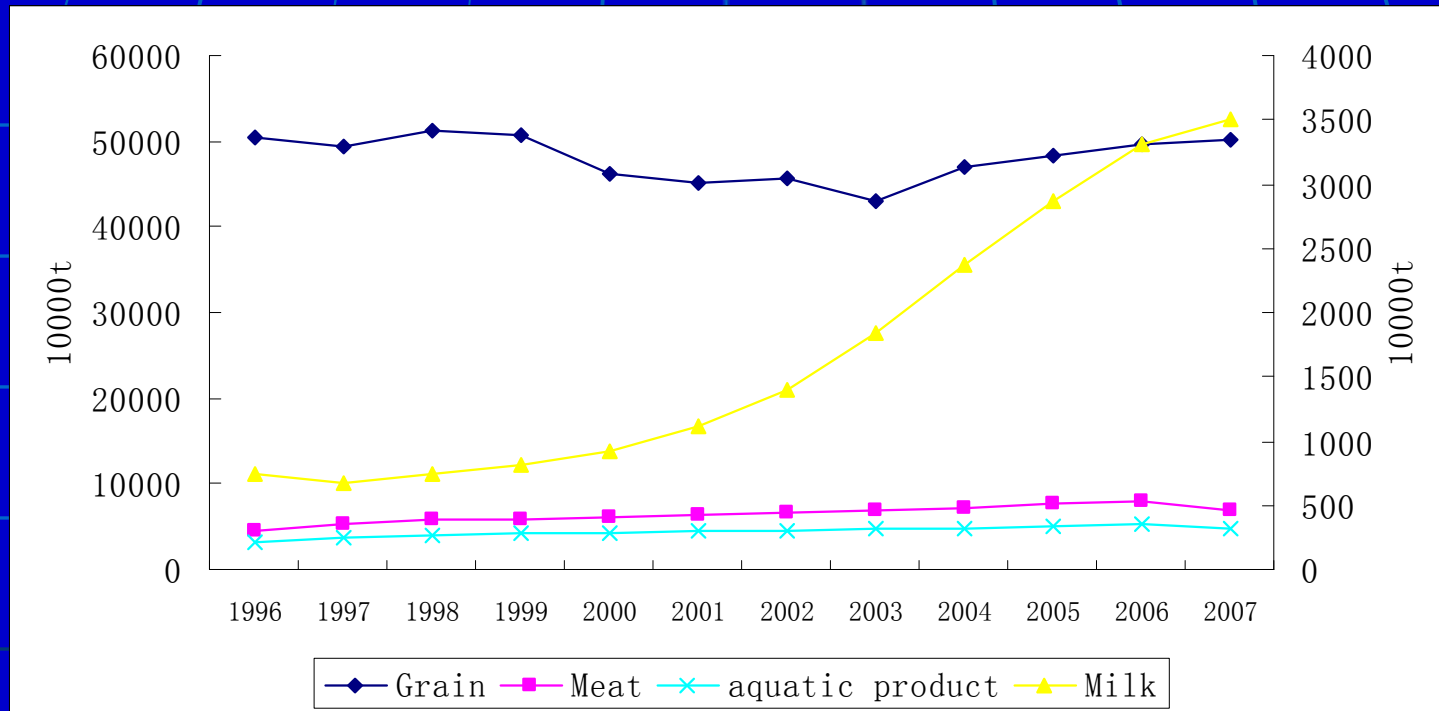
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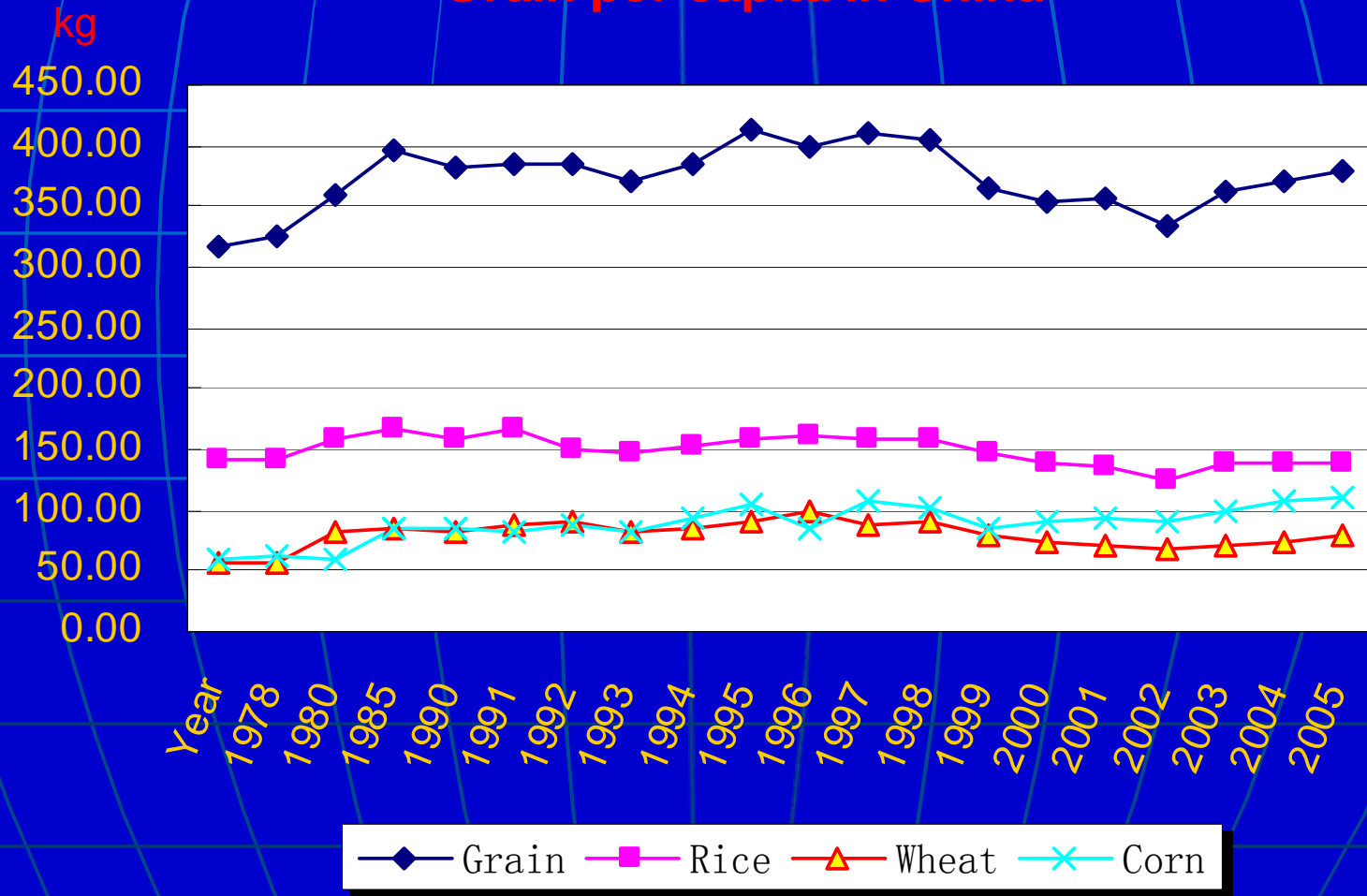
China, a country with more people and few farming lands, make a great achievement in agriculture : **feeding 21% people in the world with only 9% farming lands in the world.**

- ❑ 1.3 billion people's food;
- ❑ 737 million rural people's income;
- ❑ 42.6% labor force employment;
- ❑ 35.4 billion\$ exports of agricultural products;
- ❑ 66% of the output value from light industry is based on agricultural products.

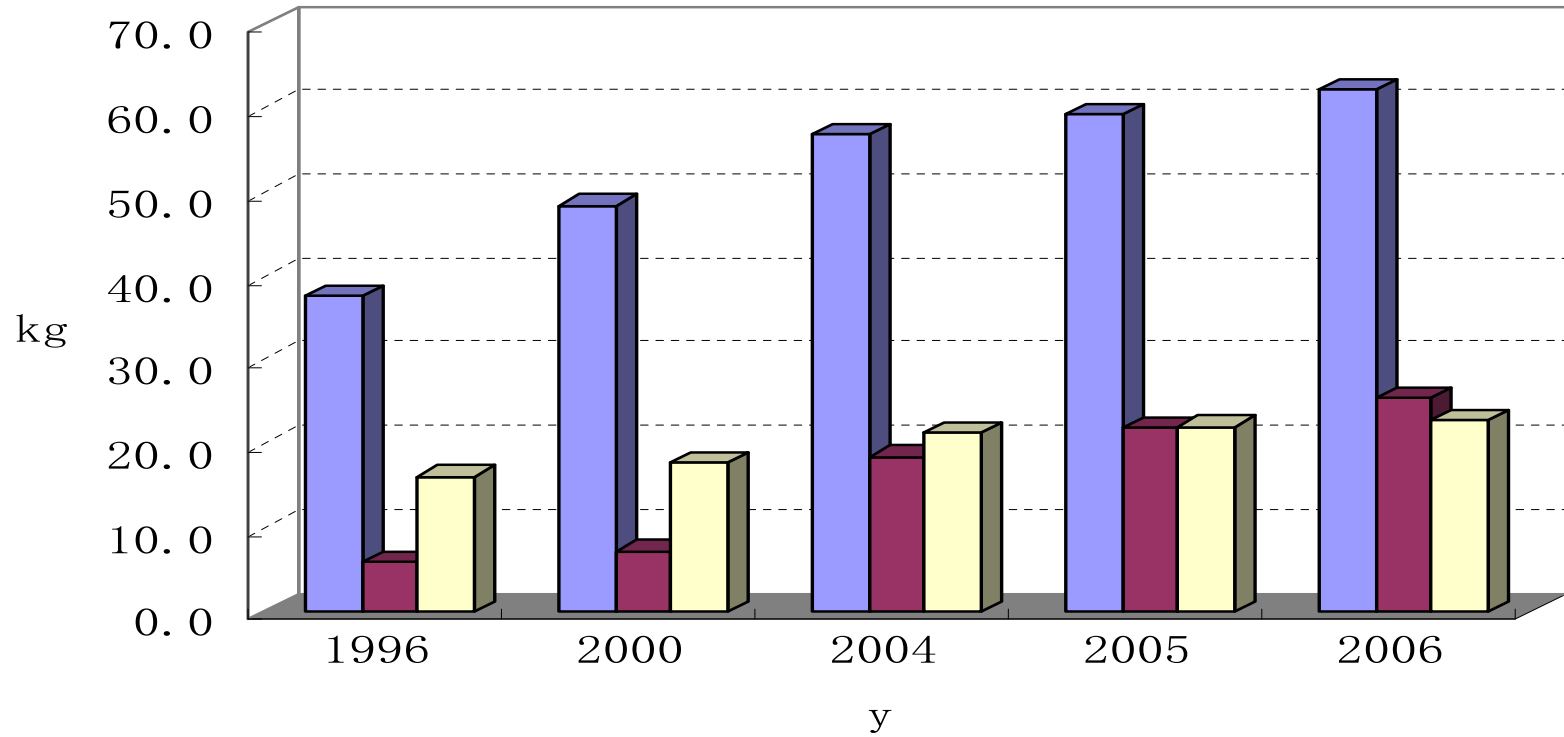
Food output in China



Grain per capita in China



Per Capita Output of Livestock Products of China



Meat Milk Poultry Eggs

With the increase of population and the development of industrialization and urbanization, shortage of agricultural resources is becoming the restricting factor to agricultural development. Chinese agricultural production and food supply will face big challenge.

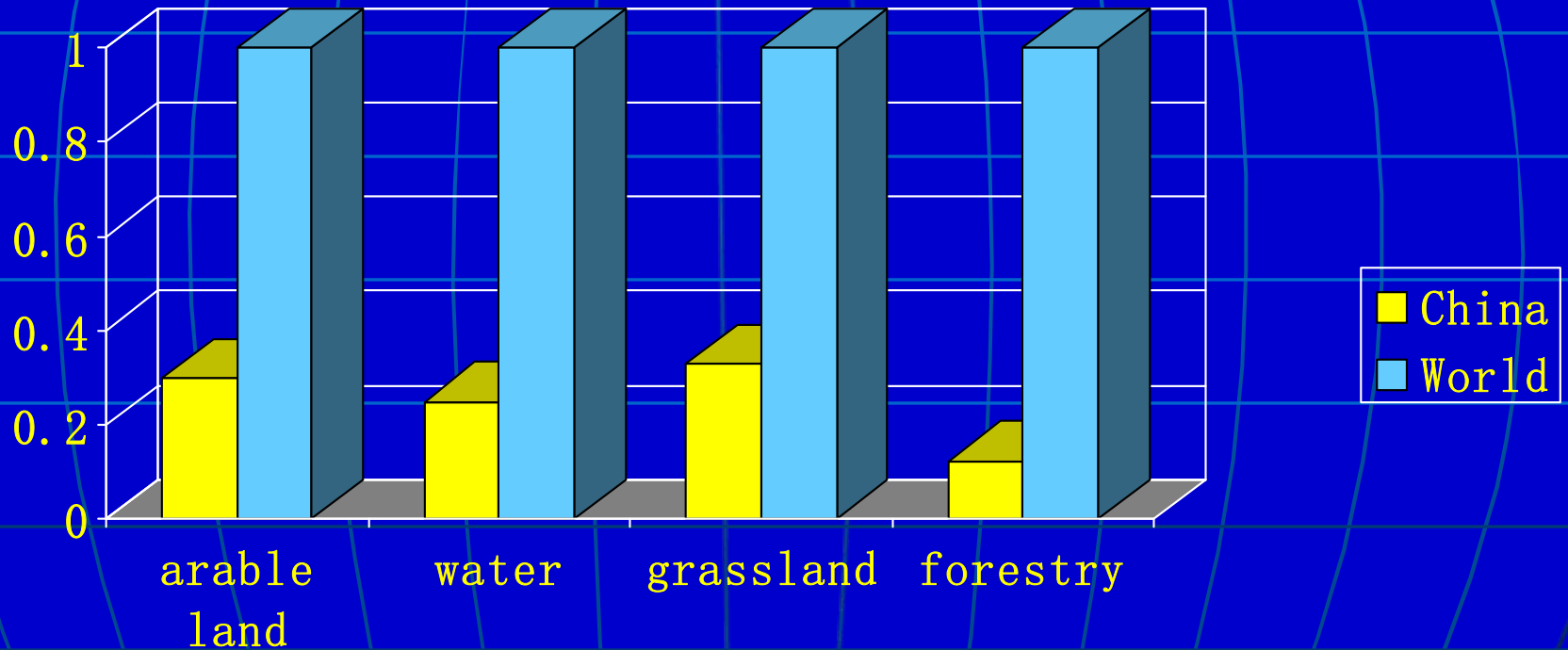
1. Supply Pressure of Agricultural Products

1.1 Sort Supply of Agricultural Natural Resources

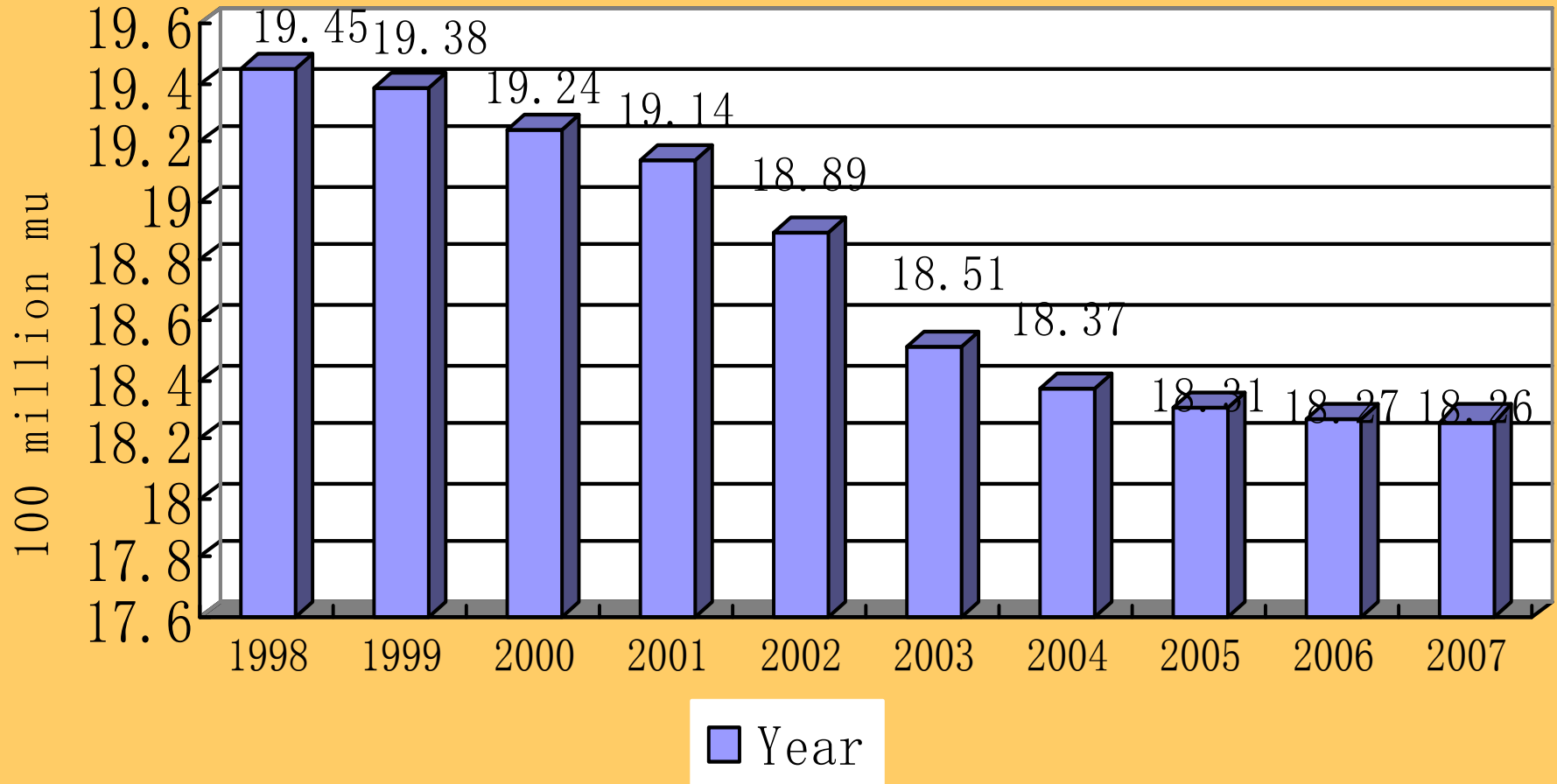
Farming Land: Land per capita is about 1/3 of world average. Farming land per capita is only 1.39mu(<0.1Ha.), less than 40% of the world average.

Water: China's total water average: 2800 billion cube meters, ranged 4th position in the World, about 7% of the World water supply; But the water per capita is 2300 cube meters, about 1/4 of World average, ranged 110 in the World, and is one of 13 countries with water deficient (3000—1000).

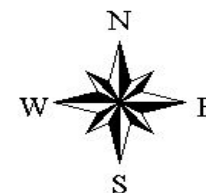
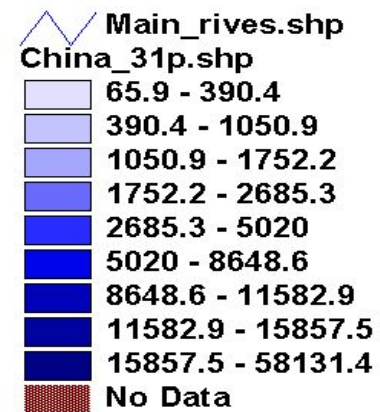
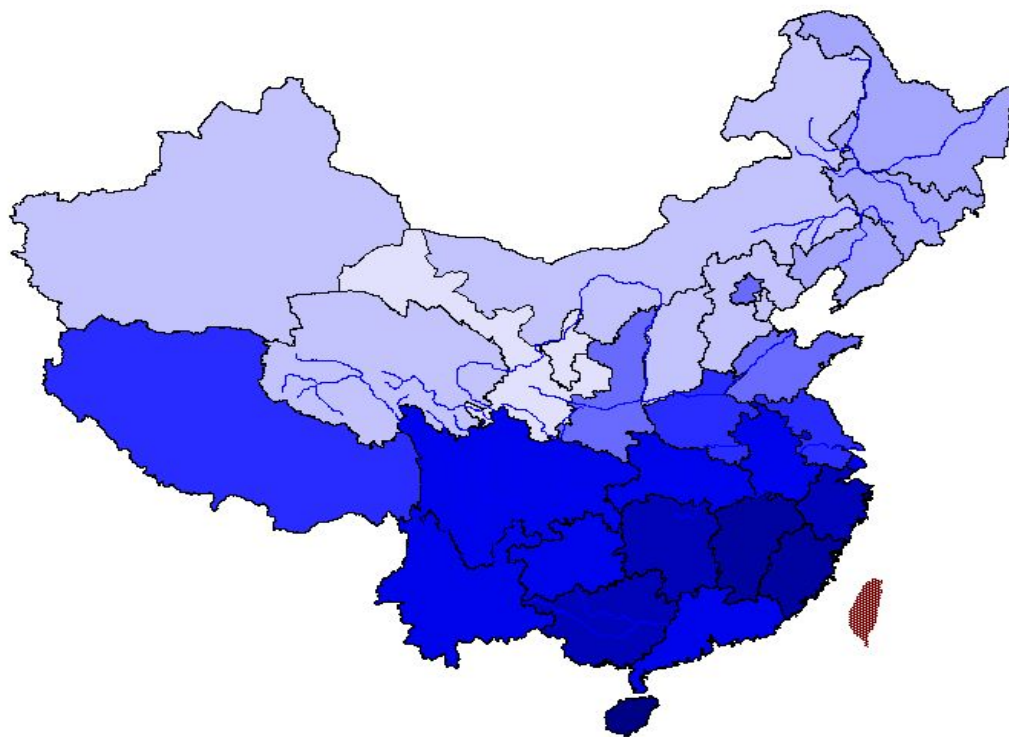
Agricultural Resource per Capita, compared with The World Average



Changes of total farming land in recent years in China



Water resource per territory (m³ /ha)



1.2 Disaster happens quite often, which often cause heavy loses

1950s: grain yearly lose from drought is about 4.35 billion KG, about 2.5% of total production.

1990s: grain yearly lose is about 20.9 billion KG, about 4.4% of total production.

2000s: the yearly lose is about 37 billion KG.

Farming lands in China is now about 1826 million mu(about 121.7 million ha.), but only 830 million mu (about 45%) can be irrigated, the others(55%) are feed by rain. Among the irrigated lands, only about 200 million mu have very good irrigation system.



Drought



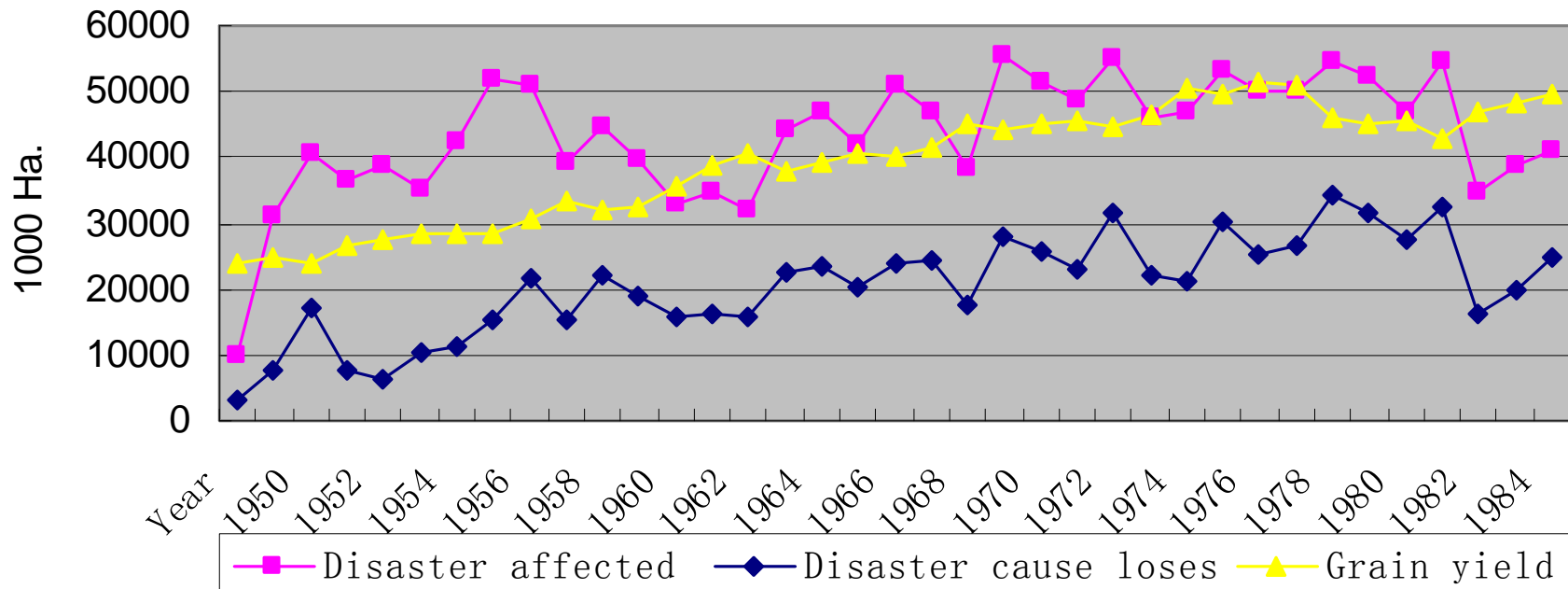
Flooding



hails



Natural Disasters Happened in China



1.3 Small farmers are very difficult to get enough benefits from their lands

Chinese Farmer: 250million

Land scale per farmer: <0.5ha.

Disadvantages of small farm management:

- ❑ Difficult to get necessary information;**
- ❑ No economical to adopt new equipment, high production costs;**
- ❑ High dealing costs, pay more to the circulations;**
- ❑ Commodity ratio of grain production is only about 30%.**

Land scales per farmer in China

Year	1999	2000	2001	2002	2003	2004	2005
Farming land (× 10000 mu*)	193800	192400	191400	188900	185100	183700	183100
No. of Farmer (× 10000)	23810.3	24148.5	24432.5	24569.7	24793.4	24971.5	25222.4
Land scale per farmer (mu)	8.14	7.97	7.83	7.69	7.47	7.36	7.26

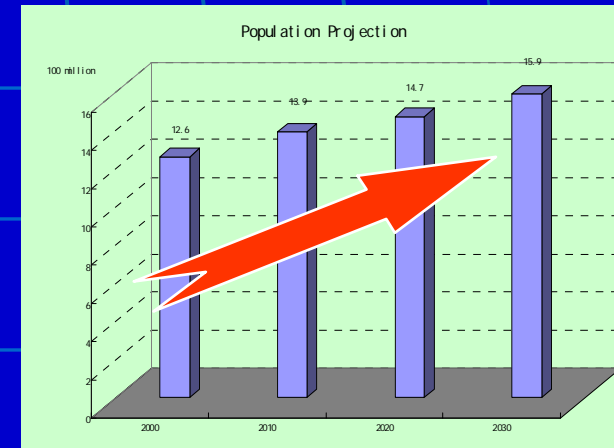
*1 mu=1/15ha,

From: Chinese agricultural statistics.

2. Demands to Agricultural Products keep Increasing

2.1 Pressure from Population Increase

- With the increase of population, the changes of population structure between city and rural areas, and the changes of meal composition of Chinese people, the demand for grain is increasing in China.
- Compared with 10 years ago, Chinese population gets an increase of 90.59 million, the grain per capita decrease from 412 kg in 1996 to 378 kg in 2006.



2.2 Pressure form Increasing Living Standard

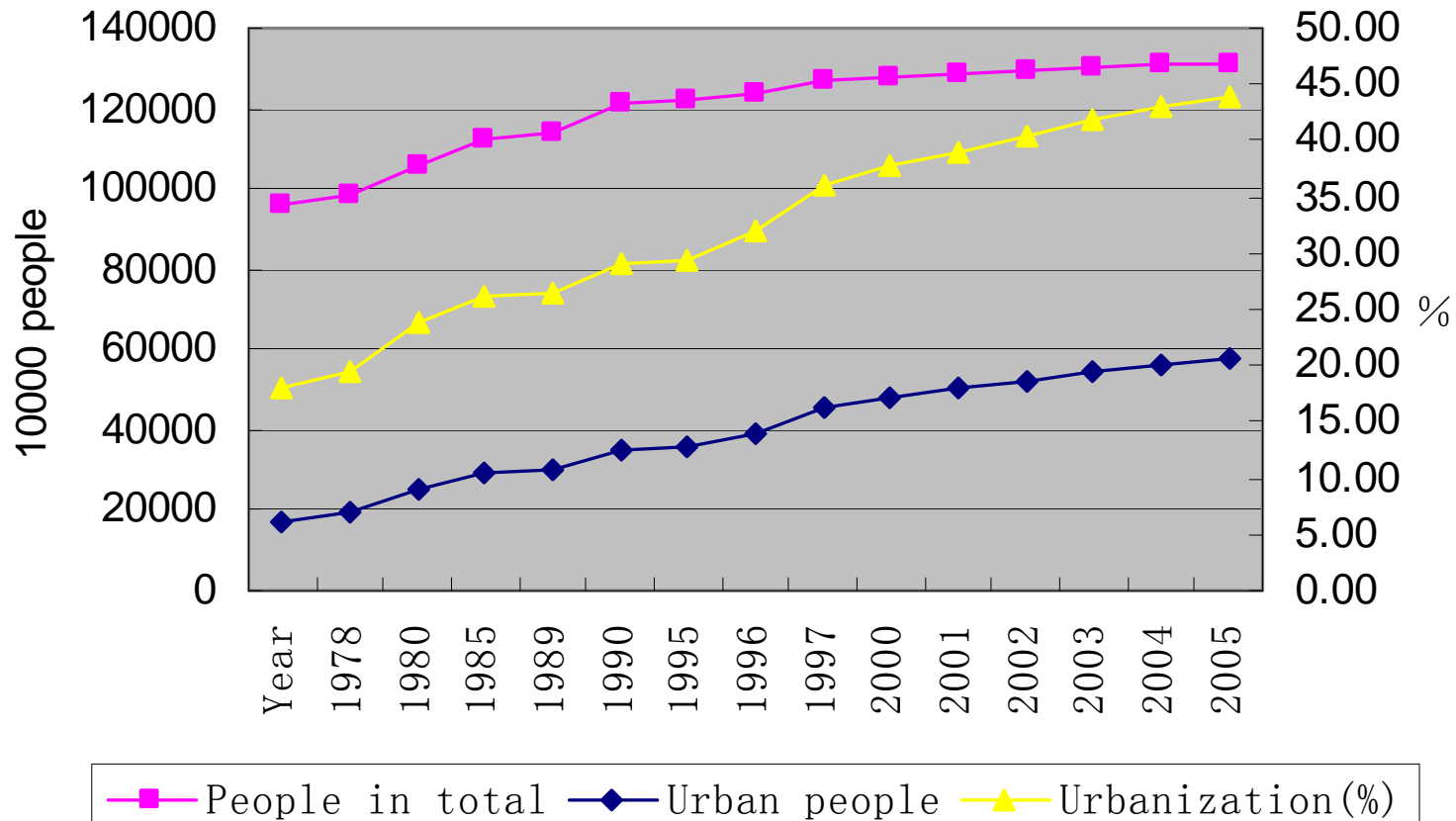
- With the increased income, the consumption level is also enhanced. The demands for grain, meat, egg, milk, plant oil, fruits, vegetable will also be increased.**
- The processed foodstuff consumption is only 30% of the total food consumption in China nowadays, but it increased from 25.16 million tons in 1996 to 54.86 million tons in 2004, with a yearly increase rate of 10.2%.**

2.3 Pressure from Urbanization

- The level of urbanization in China increased from 36.09% in 2000 to 43.90% in 2006.**
- Large number of rural people moving into city will increase the demand for agricultural product consumption.**

(The producer become the consumer of agricultural products, which will increase the total consumption and total commodity of agricultural products. In general, the energy consumption of people in town is 3.5 times of that in rural areas, the meat, fruits and milk consumption are 2 times, 3 times and 10 times respectively.)

Population and urbanization since 1978 in China



3. Production Costs Increased, Benefits from Agriculture Decreased

3.1 Means of production costs have been increasing in recent years

- ❑ With the costs increase of means of production, Agricultural production costs will increase intensively.
- ❑ The price of urea, diesel oil, and agricultural film increased 26.6%、 64.4% and 60% respectively in recent 5 years, and the production costs per unit increased 23.9%.

Price Changes of Urea between 2001-2007 in China

Year	2001	2002	2003	2004	2005	2006- 2007	2008
Chinese Yuan/ton	1279	1331	1498	1845	1850	2020	2800

3.2 Labor Costs

The average wage of peasant-worker increase more than 100 yuan every year in recent years in coastal areas, some even with 20% increase.

The Average Production Costs and Income of Main Agricultural Products* in Guangxi, China

Unit: Chinese Yuan/mu**

Items	2000	2001	2002	2003	2004	2005
Yield (kg/mu**)	437.73	460.62	460.81	444.34	438.56	447.53
Output value	449.46	468.82	458.42	497.31	650.22	667.36
Production Costs	377.75	378.01	382.61	410.93	466.9	513.98
Material inputs	215.25	221.07	230.97	239.05	270.5	295.43
Labor inputs	162.50	156.94	151.64	171.88	196.4	218.55
Net income	71.71	90.81	75.81	86.38	183.32	153.38
Income/costs(%)	18.98	27.18	19.81	21.02	39.26	29.84
Price of 50 kg	51.34	50.89	49.74	55.96	74.13	74.56

* Including rice, corn, peanut, sugar cane and tobacco;

** one mu = 1/15 ha.

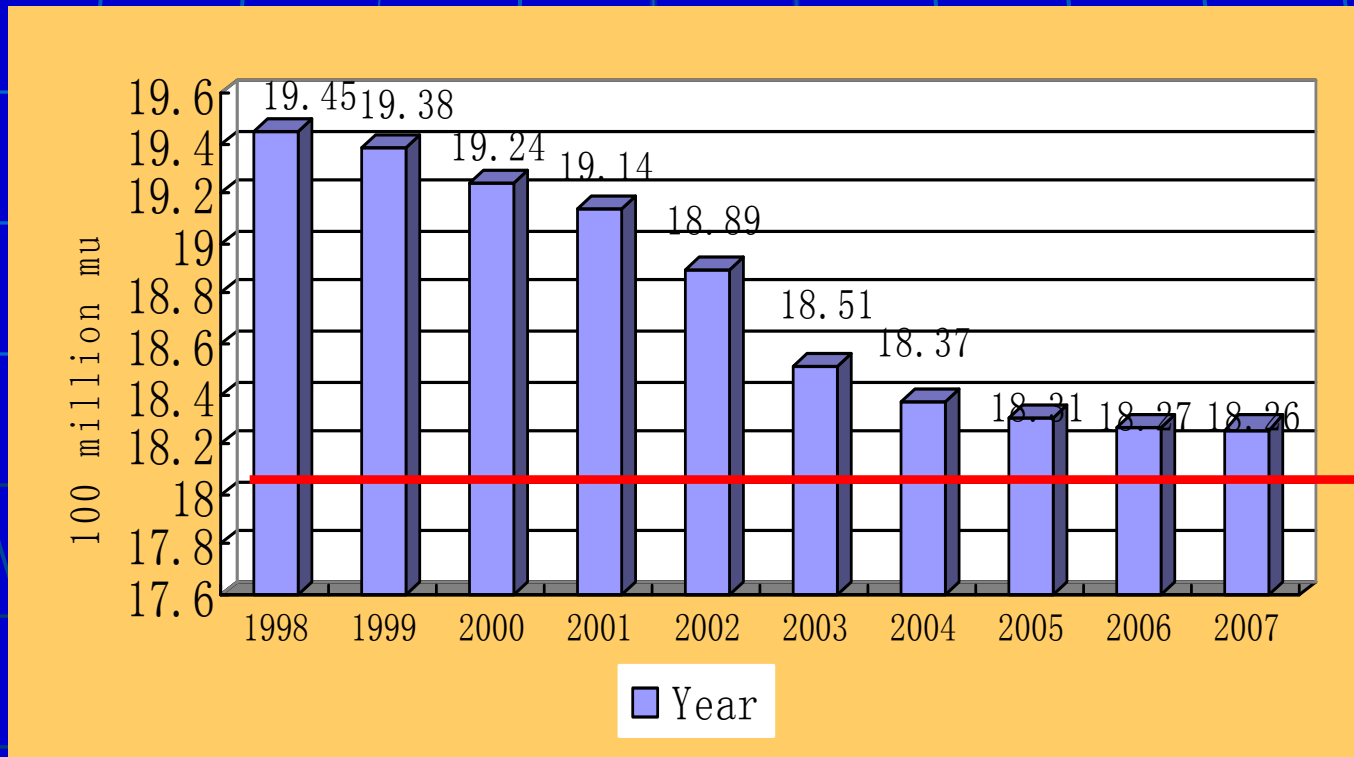
3.3 Opportunity Costs

- The benefit decrease of grain production results in the increase of opportunity costs, large number of young labor in rural areas transfer to position not related to agriculture.**
- Data from Ministry of Labor: the average wage of outgoing rural labor is 1226 yuan/month in 2006, much higher than grain production.**
- The average monthly wage of water delivery: 2000 yuan, babysittor: 1500yuan, cargador: 1000yuan.**

4. Countermeasures & Experiences

Farming land protection policy:

A red line for China. (1.8 billion mu, or 12 million ha.)



Developing resource-saving agriculture:

Especially land and water: multiple cropping, water-saving agriculture.

Science and technology support:

Play important role in feed Chinese people in future.

Increase agricultural inputs:

Provide subsidy to farmers, increase inputs to agricultural production bases.

Agricultural industrialization:

Organize small farmer to engage agricultural goods production, let the farmer get more benefits.

Because Chinese government adopt all the measures, the grain price is much lower than the price in the World, though with little increase because of the inputs

Purchase price* of grain

(Chinese Yuan)

	Mar-08	increase than last month (%)	increase than last year (%)
Grain average**	81.17	0.37	7.77
Wheat	79.83	0.26	7.10
Rice	87.45	0.41	7.47
Corn	71.72	0.41	9.15

*** 50kg;**

**** including rice, wheat and corn.**

The retail price* of some grain in city markets of March 2008

Early indica type rice: 1.92 ¥/kg

Later indica type rice: 3.24 ¥/kg

Ordinary rice: 3.54 ¥/kg

Standard wheat flour: 3.12~3.3.58 ¥/kg

*from China information network

Summary

Chinese government has been paying great attention to agriculture, especially to the grain production, and produced enough grain to meet the increasing need.

China has enough confidence, strong ability and abundant experience to feed her people in the future (more than 1/5 people of the world). This is a great contribution to global grain security.

Thank You !

