

THE NEW ADVANCES OF AGRICULTURAL MECHANIZATION AND EQUIPMENT INDUSTRY IN RECENT YEAR IN P.R.CHINA

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1. NEW ADVANCES OF AGRICULTURE AND RURAL ECONOMY IN 2004

1). Crucial challenges to ensure food security and to improve farmers' income

Facts in 1998 – 2003:

- Sustained reduction of grain production
- Decrease of grain sown areas
- Slow improvement of farmers' net income

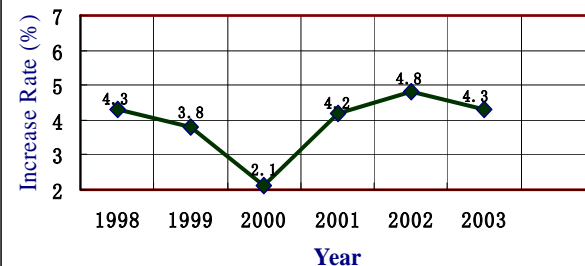
National Output of Grain Crops



Total Sown Area of Grain Crops



Increase of farmers income over previous year



2). **Take strategic measures to promote agriculture and rural economy development in 2004**

- Giving top priority to solve agriculture, rural and farmers' problems in the National Social & Economic Development Program
- Balancing urban and rural economy development
- Speeding up strategic re-adjustment of agriculture and rural economy
- Reducing farmers' load by reforming rural tax systems and adopting subsidy policies directly to producers

2004: Reducing farmer's tax: 36 bil. US \$

Subsidies for grain producers, seeds and farm machinery: 18 bil. US \$

Comparison 2003/2004: Investment to agriculture from Central Government:

2003 / 144.6 bil. US \$; 2004 / 198.8 bil. US \$ Increased rate: ↑ 37.5 %

3). Success in 2004:

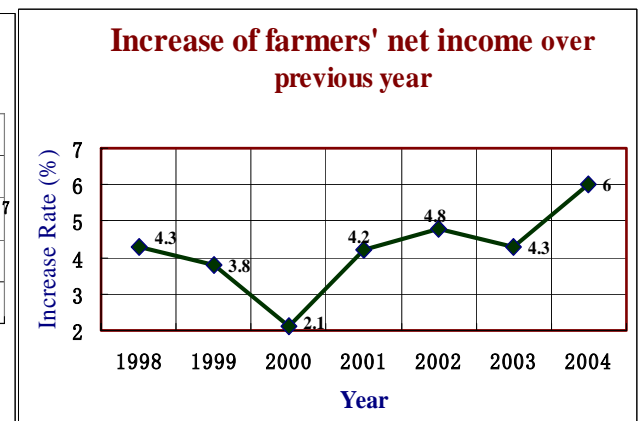
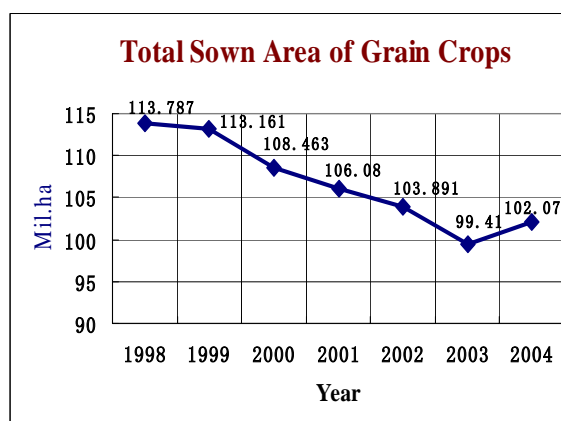
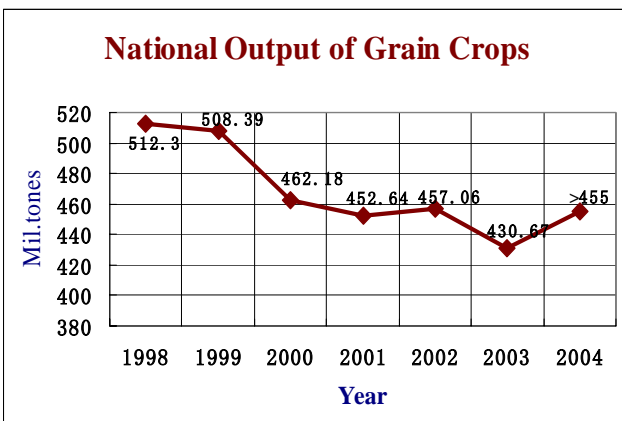
- A bumper harvest of grain production in 2004:

430 mil. tons / 2003 → 455 ~ 465 mil. tons / 2004

- Farmers' income turned over from many years' low:

By the end of Sept. in 2004, the farmers' cash-income increased 11.4%

- The market demand of agricultural equipment have shifted toward production process mechanization



***China is starting a new period
featured with industry
supports agriculture and urban
supports rural development !***

2. A STATE LAW ON “*PROMOTION OF AGRICULTURAL MECHANIZATION*” WAS EFFECTIVE AS OF 1ST NOV, 2004

1). **Background:** the overall agricultural mechanization level is still quite low:

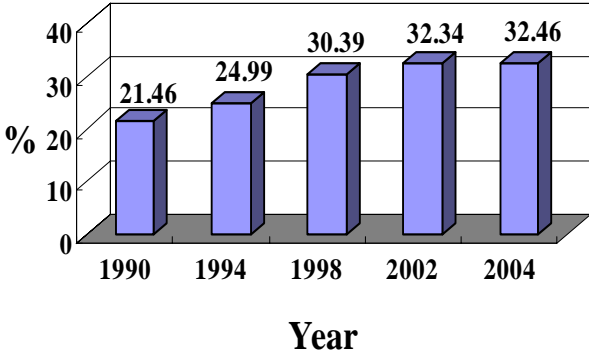
Mechanization level (2003):

Tillage:	47 %;
Sowing:	27 %;
Harvesting:	19 %

Mechanization level by crops (2003):

	Sowing / planting	Harvesting
Winter wheat	78 %	75 %
Paddy Rice	6.16 %	23.6 %
Corn	48.24 %	2.03 %

Comprehensive Mechanization Level (%)

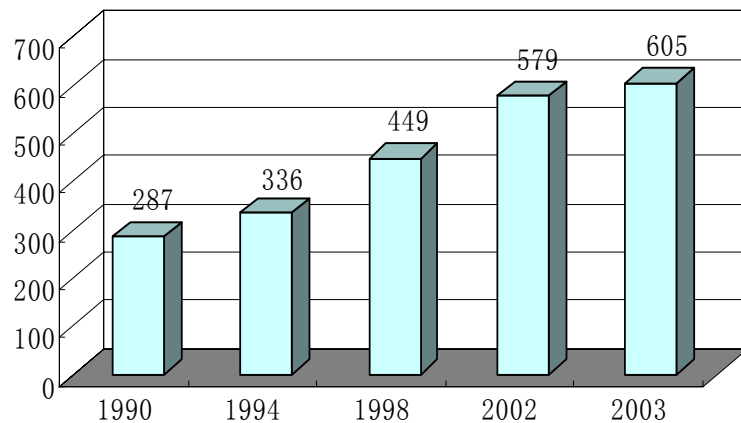


- 2). **The State Law** targets at speeding up development of agricultural mechanization and providing an aid to support producers and rural service organizations with advanced and appropriate machinery
- 3). **The State Law** mainly refers to:
 - R & D in development of machinery products ;
 - Quality insurance of machinery products;
 - Extension & application;
 - Socialized service;
 - Policy, subsidy and investment support.
- 4). **The State Law** requires that all government bodies above county level should add **the promotion of agricultural mechanization** to the national and social development plans and smooth an **increase of financial support** to the development

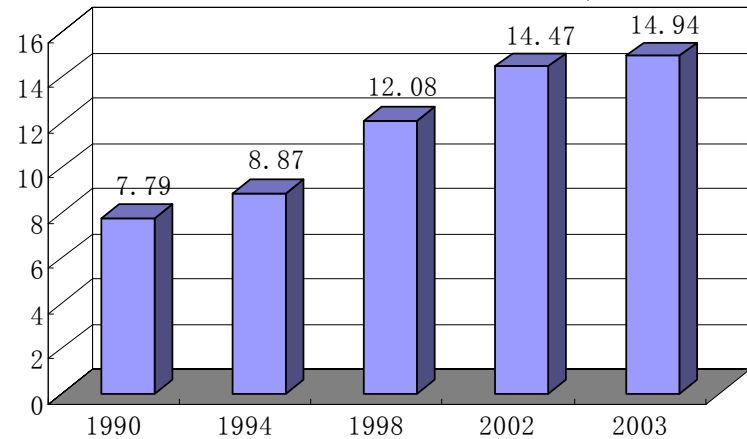
3. THE TRENDS OF AGRICULTURAL EQUIPMENT AND MECHANIZATION DEVELOPMENT

1). Sustained increases of farm power-use

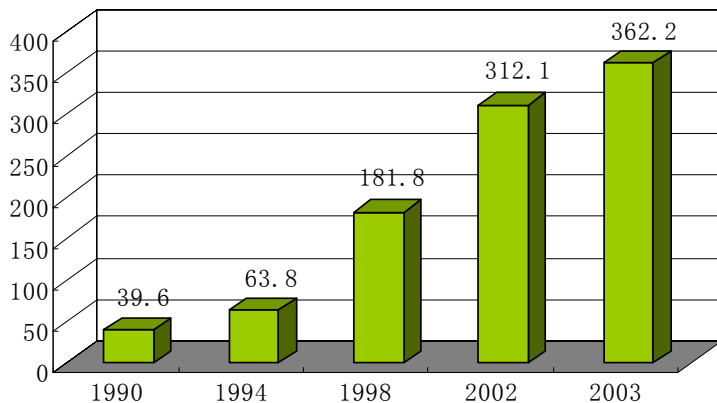
Total Farm Power (mil. kW)



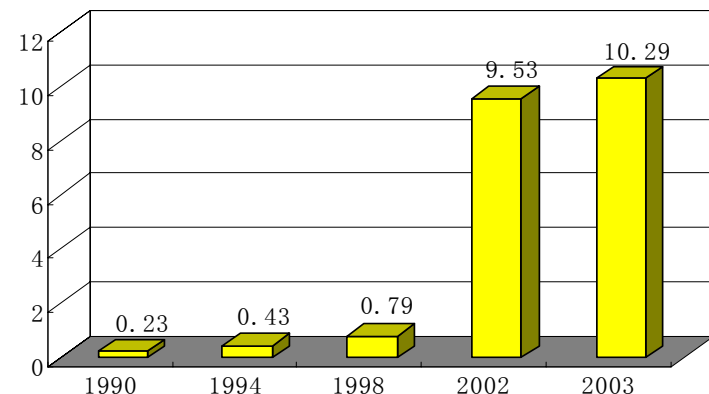
Total Units of Tractors (10^6 units)



Combine Harvesters (10^3 units)



Rural Vehicles (10^6 units)



2). Great changes in market demand structures for farm power consumption

- Fast increase for mid- and large tractors and implements

36400 units were marketed between Jan. – May, ↑ 79.8 %

- Small tractors demand are continuously in saturation stage:

766.7 thousands units were manufactured, ↓ 15.1%

- Preserved tractors in total: *18.5 mil. units (by 30 Jun.2004)*

- Output of wheeled tractors (Jan.-Jun.2004)

Tractors \geq 25 hp. 48 thousand units, ↑ 103.86 %

Tractors < 25 hp 867.9 thousand units, ↓ 26.2 %

3) Increased export and import of farm machinery:

	2002	2003	Jan. – Jun.2004
Export (in bil US\$)	1.521	2.131	1.492
Import (in bil US\$)	1.955	4.219	3.234

4) Expansion of mechanization service areas:

Field production → *pre- & post harvest treatment & processing*

Grain crops → *economic crops*

Grain crop production → *horticulture, livestock, forestry, etc.*

5) Rapid development of mechanization services

3082 organizations for mechanization services, 27 bil. US \$ income (2003)

Trans-regional harvesting and other services:

1994 – over 60,000 combines

2004 – over 350,000 combines, harvested wheat 17 mil.ha

Customized Services for Combine Harvesting



Transregional transportation of combine harvesters



Trans-regional service for wheat harvesting in 2004:

350,000 combines
17 mil. ha



4. ENHANCED INTERNATIONAL EXCHANGE AND COOPERATION

More than 70 AM sub-companies or joint-venture enterprises were established in China:

John-Deere,

New Holland,

Yanmar,

Kubota,

Tong Yang,

San Jiu,

Jinzi,

Valtra,

Claas, etc)

Products from these Famous manufacturer started to be accepted by Chinese customers

												
	6603 型	6403 型	804 型	724 型	654 型	600 型						
发动机形式	立式、水冷、六缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸	立式、水冷、四缸
缸径 × 行程(mm)	106 × 127		105 × 135	105 × 125	105 × 125	105 × 125	105 × 125	105 × 125	105 × 125	105 × 125	105 × 125	105 × 125



NewHollan









2BMD-12型小麦对行免耕播种机



2BMFS-6/12型带状粉碎浅旋免耕播种机



15-3型深松机

15-1型深松机

15-2型深松机

15-5型深松机

15-7型深松机

5. EVENTS ON AGRICULTURAL ENGINEERING AND MACHINERY IN 2004 IN CHINA:

- **Annual large – scale Agricultural Machinery Fairs**
- **2004 International Agricultural Machinery Technology Show & Forum in Shanghai (Aug. 2004)**
- **2004 CIGR Agricultural Engineering Olympics Conference (11-14,Oct., 2004, Beijing)**
- **International Forum of Agricultural Equipment and Mechanization in Less Developed Regions (Oct. 15, 2004, Beijing)**
- **Session on agricultural engineering, food security & safety, WEC 2004 (12-16, Nov. Shanghai)**

6. CHALLENGES

- **Lower farmers' income and weak purchasing capability ;**
- **Equipment manufacturing industry needs adjustments to meet market demands;**
- **Insufficient technical innovation capability in R & D**

7. THE PRIORITIES FOR PROMOTION OF AGRI. MECHANIZATION & EQUIPMENT DEVELOPMENT

■ Mechanization of cereal production

Rice (43 %):

Advanced transplanting; drying; processing

Wheat(25%) / Maize(30%):

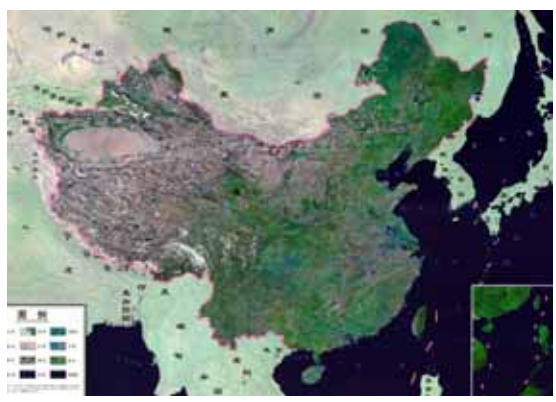
Conservation tillage; precise sowing; sub-soil deep loosening; straw incorporation; water saving irrigation; maize harvester

■ Other crop mechanization:

Rape seed harvesting; cotton picking; sugarcane harvesting, tuber crop planting & harvesting

■ Mechanization to meet the requirement of agro-industry structure adjustment:

Facility horticulture, forage production; vegetables; gardens, etc.



9. VISION FOR THE FUTURE

- China's agriculture is entering into a new stage for industrialization and modernization. Agricultural equipment industry and R & D will have favored development environment;
- Sustainable agriculture, food quality and safety require a series of engineering technological inputs and services:

Soil & water management, renewable energy and bio-materials' utilization, mechatronics, precisely manage agriculture process, advanced processing technology and equipment, modern agro-industry management, etc.

- The modern IT advances provide a prospectus possibility for technological innovation to transform traditional into modern agriculture and to serve full food chain & product traceability
- Investigation of new approaches to enhance intl. & regional technical transfer, technical & business cooperation will bring a great benefit to regional agricultural development.

Thank You!

