Material for the Press Conference of the State Council Information Office

The Nutrition and Health Status of the Chinese People

October 12, 2004

Part I The Background

1. The objective and significance of this Survey

The nutrition and health status of people is an important indicator for the economy and social development, health care level and the population diathesis of a country or region. Good nutrition and health status not only forms the foundation for the social and economic development, but is also the goal of the country's social and economic development. Many countries in the world in particular the advanced countries, have been conducting regular surveys on the status of nutrition and health among the people, with survey results being released in time, and based on the survey results, relevant social development policies have been formulated and evaluated accordingly in a view to improve the status of nutrition and health among the people and to promote the coordinated development of social economy.

In China, three national surveys on nutrition were conducted respectively in 1959, 1982 and 1992, three national epidemiological surveys on hypertension were conducted respectively in 1959, 1979 and 1991, and two sampled surveys on diabetes were conducted respectively in 1984 and 1996. The above surveys have played positive roles in: understanding the current dietary patterns and nutrition level of the urban and rural residents in China, and the epidemiological characteristics and trends of the relevant chronic diseases; evaluating the nutrition and health status of the urban and rural population; and formulating the relevant policies and disease prevention strategies. In the past ten years, rapid social & economic development in China has on the one hand, provided the economic and physical foundation in eliminating malnutrition and improving the health of the people, on the other hand, has resulted in changes in the dietary patterns, lifestyles and the disease patterns among the Chinese population. In

order to timely understand the current dietary structure and the status of nutrition and health among Chinese people and their trends, to demonstrate-the effects of social economic development on the people's nutrition and health status, and to provide the scientific basis for formulating relevant state policies, inducting the development of agricultural and food industries and guiding the people to adopt healthy lifestyles, a "Survey on the Status of Nutrition and Health of the Chinese People" under the joint leadership of the Ministry of Health, the Ministry of Science and Technology and the National Bureau of Statistics was conducted from August to December, 2002. The Ministry of Health was responsible for organizing the related departments in all the provinces, autonomous regions and the municipalities directly under the Central Government to carry out the survey.

This was China's first comprehensive survey ever in the field of nutrition and health. It has systematically integrated several previously separately organized surveys on nutrition, hypertension, diabetes, etc. into one survey, and it has increased some new and relevant indicators and contents taking into account of the status of social economic development. The survey was organized, designed and implemented in a unified manner, based on adequate scientific augmentation. This survey covered China's 31 provinces, autonomous regions and the municipalities directly under the Central Government (excluding Hong Kong and Macao Special Administrative Regions and Taiwan), and it has exhibited good representatives of the nation, taking into account of the different regions in China. This survey was scientifically designed with abundant contents, sufficiently embodying the advantage of cooperation among the multi-sectors and the application of multi-disciplinary scientific knowledge and by so doing, it has not only saved a large number of manpower and the material resources, but has also avoided the overlap of survey contents and indicators, laying the foundation for further analysis on the inter-relationships among different factors.

This survey was conducted at the time of the important period of constructing the well-being society of China. The survey has not only established the database for the status of nutrition and health of the Chinese people, provided important resources for the scientific research and for formulating relevant policies, but has also adhered to the

principle of proceeding from the human needs and a full embodiment of establishing and implementing a complete, coordinated and sustained scientific development views.

2. Survey methodologies and contents

According to various economic development levels and types, all counties (cities, districts) were classified as the large cities, medium and small cities, 1st class rural areas, 2nd class rural areas, 3rd class rural areas and 4th class rural areas, i.e. altogether six classified areas. The method of multi-steps cluster sampling was adopted, 71,971 households (24,034 urban households and 47,937 rural households) were chosen from 132 counties (districts, cities) (refer to Chart 1) of China's 31 provinces, autonomous regions and the municipalities directly under the Central Government, 243,479 persons (68,656 persons in the cities and 174,823 persons in the rural areas) were chosen in the sample. In order to ensure sufficient number of pregnant women, breast-feeding mothers, infants, babies and children under the age of 12 years old in the survey and to ensure enough sample size in each group, additional subjects were included in the sample and the total number of subjects in this survey reached 272,023.

This survey included four parts, i.e. the questionnaire survey, health examination, laboratory tests, and dietary surveys by which, the dietary surveys covered 23,463 households (7,683 urban households, 15,780 rural households) involving 69, 205 subjects, and 221,044 subjects participated in the health examination, 153,259 subjects participated in the blood pressure measurement, 94,996 subjects participated in the blood cholesterol test, 211,726 subjects participated in the blood hemoglobin test, 98,509 subjects participated in the blood sugar tests, and 13,870 subjects participated in the plasma vitamin A measurement.

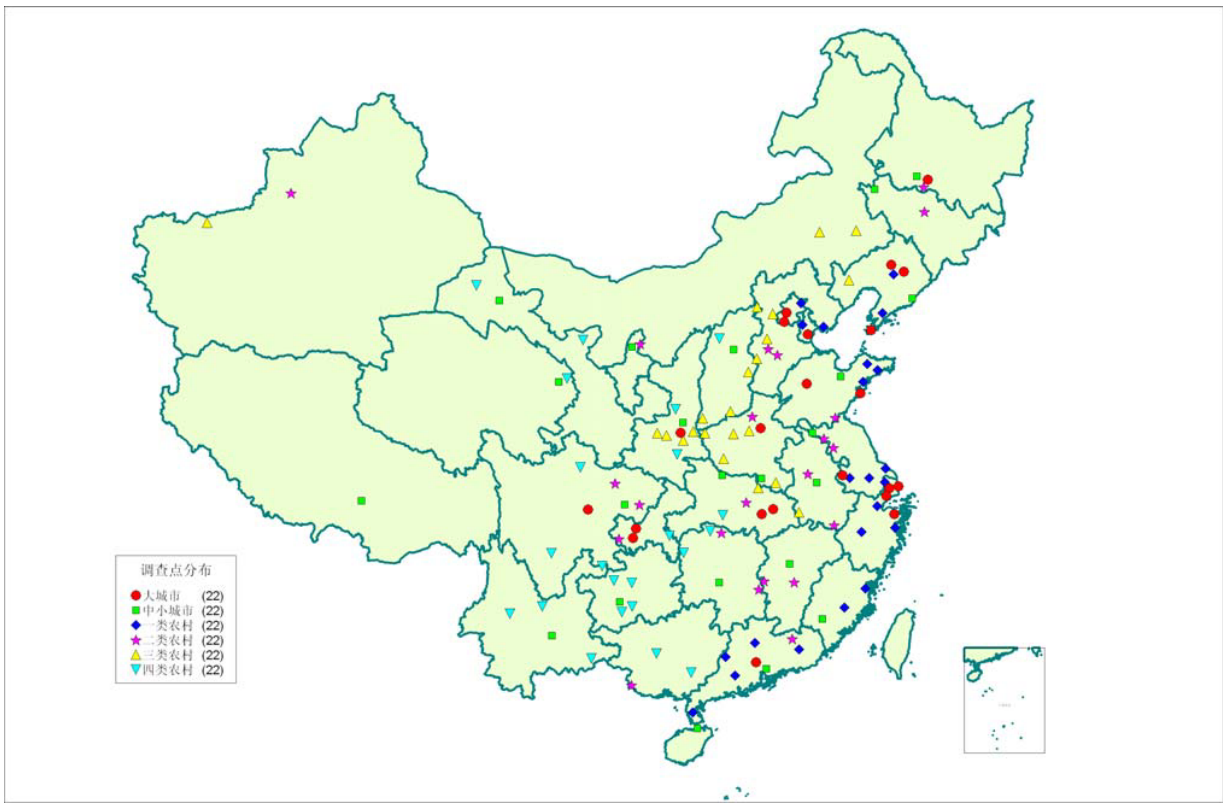

Chart 1 Geographical distribution of the 132 survey sites

From August to October 2002, field surveys were conducted in China's northern areas, and from September to December, 2002, in the southern part of China. From January to August 2003 various laboratory tests and data entry were completed; from May to December 2003, all data was cleaned and the database was established; from January to July 2004, the preliminary data analysis report was finished.

In order to ensure the accuracy of the survey data, a whole process quality control was performed throughout the survey, and all quality control results indicated that every part of this survey met the requirements of the quality control plans in the program design.

3. Data quality assessment and the interpretation of the survey results

The sample demographic data was compared with the 5th national census data in 2000 and the demographical indicators data (gender proportion, weight coefficient, size of the households, proportion of the minority nationalities) in 2002 from the National Bureau of Statistics and the results showed that the sample is a good representation of

the total Chinese population.

Due to 10.1% of the choosen subjects were not available at the time of the survey, it lowered the proportion of the age group of 15-25 years old in the survey sample. Therefore, age specific adjustments were firstly made for the disease prevalence in the six areas, based on the data collected in the 5th national census in 2000, and after the adjustments were made, the prevalence rates were further weighted based on the population of each of the 6 areas, hence the national disease prevalence was calculated.

Part II, Major Results

In the past ten years, the status of diet and nutrition among the urban and rural Chinese population has been improved significantly, and the prevalence of malnutrition and nutrition deficiency has been continuously decreased. However, in the meantime China is still facing the dual challenges of nutrition deficiency and nutrition imbalance.

1. The status of nutrition and health among the Chinese people has been significantly improved

(1) The quality of the average diet of the Chinese people has been improved significantly. The energy and protein intake among the urban and rural population have been basically satisfactory, the consumption of meat, poultry, egg and other animal products has been increased significantly, and the percentage of good quality protein in the diet has been increased. The daily consumption of animal products for the people living in the urban and the rural areas has been increased from 210 g and 69 g respectively in 1992 to 248 g and 126 g respectively according to the survey. Compared with the figures in 1992, the dietary pattern of the rural residents has become more reasonable, the percentage of good quality protein among the total protein intake has been increased from 17% to 31%, energy contribution from fat increased from 19% to 28%, energy contribution from carbohydrate has been decreased from 70% to 61% (see Table 1 & 2)

(2) The growth of children and teenagers has been steadily improved. The average weight of new-borne infants has reached 3,309 grams, low birth weight accounted for 3.6% of the total live birth, by which it has reached the level of the industrialized

countries. The average height of the 3-18 years old age group in the urban and rural areas was 3.3 centimeters more than the average of that in 1992. Compared with the urban residents, rural males were on average, 4.9 centimeters lower and females are 4.2 centimeters lower.

(3) The malnutrition prevalence among the children was significantly decreased. The prevalence of growth retardation among children under the age of 5 was 14.3%, compared with the figure in 1992, it has been decreased by 55%, among which the number in the urban areas has been decreased by 74% and in the rural areas the number has been decreased by 51%. The prevalence of low body weight in children was 7.8%, compared with the figure in 1992, it has been decreased by 57%, among which the figure in the urban areas has been decreased by 70% and the prevalence in the rural areas has been decreased by 53%.

(4) The prevalence of anemia among Chinese was slightly decreased.
The prevalence of anemia in the urban males has dropped from 13.4% in 1992 to 10.6%, and the prevalence among the urban females has dropped from 23.3% in 1992 to 17.0%. The prevalence of the rural males has dropped from 15.4% to 12.9%, and the prevalence of the rural females dropped from 20.8% to 18.8%.

2. The nutrition and health problems in the population should not be ignored.

(1) The dietary pattern among the urban residents is not reasonable to certain extent. The consumption of poultry, meat and oil/fat was too high, and cereals consumption was at a relatively low level. In 2002, daily consumption of oils/fats among the urban residents has been increased to 44 grams, compared with 37 grams in 1992. The energy contribution from fat reached 35%, exceeded the recommended upper limit of 30% by the World Health Organization. The energy contribution from cereals among the urban residents was only 47%, which is significantly lower than the recommended range between 55% and 65%. Besides, low consumption of dairy and soy products remained a common problem in China.

(2) Some problems of malnutrition among the children in China's rural areas is still quite serious, prevalence of growth retardation and low body weight among the children under the age of 5 accounted for 17.3% and 9.3% respectively. The figure in the poor

rural areas was 29.3% and 14.4% respectively. The prevalence of growth retardation was the highest among the one-year-old age group, on average in rural areas it accounted for 20.9%, in the poor areas, its accounted for 34.6%, by which this demonstrates the significant problem associated with the improper use of complementary foods in infants in the rural areas.

Micro-nutriments deficiency such as iron and vitamin A is a problem commonly existed among the urban and rural population. The prevalence of anemia among the Chinese people averages 15.2%; the prevalence of anemia among the infants and children under the age of two-years-old, the older people over the age of 60 years old and the child-bearing women was 24.2%, 21.5% and 20.6%, respectively. The prevalence of vitamin A deficiency among the children aged between 3 and 12 years old was 9.3%, among which in the urban areas it was 3.0% and in rural areas the figure was 11.2%; the prevalence of marginal vitamin A deficiency was 45.1%, among which in the urban areas it was 29.0% and in the rural areas the figure was 49.6%. The average calcium intake among the urban and the rural population was only 391 milligrams, equivalent to 41% of the recommended dietary intake level.

(3) Rapid increase of the prevalence of the chronic non-communicable diseases

① A significant increase in the morbidity of hypertension

The prevalence of hypertension in the people over the age of 18 is 18.8%, and it is estimated that more than 160 million people are suffering from this illness in China. Compared with 1991, the prevalence of hypertension increased by 31% with more than 70 million new hypertension patients since 1991. The prevalence of hypertension in the rural areas has also increased rapidly, and there is no significant difference between the prevalence in the urban and the rural areas. The hypertension prevalence in the big cities, small to medium cities and class 1 to class 4 rural areas in China was 20.4%, 18.8%, 21.0%, 19.0%, 20.2% and 12.6% respectively.

The population awareness rate about hypertension in China was 30.2%, the treatment rate was 24.7% and the rate of under-control was 6.1%; compared with the figures of 26.6%, 12.2% and 2.9% respectively in 1991, although there has been an improvement, however, the awareness is far from adequate.

② An increase of diabetic prevalence

The prevalence of type 2 diabetes for the people over the age of 18 years old in China was 2.6%, and the prevalence of impaired fasting plasma glucose was 1.9%. It is estimated that there are more than 20 million diabetic patients in China, besides, nearly 20 million people with impaired fasting blood sugar level. The prevalence of diabetes in China is significantly higher in the urban areas than the rural areas, while the prevalence in the 1st class rural areas is significantly higher than that of the 4th class rural areas. Compared with sampled diabetes survey in 1996, in adults over the age of 20 years old, the diabetic prevalence in the big cities increased from 4.6% to 6.4%, and the prevalence in the small and medium sized cities increased from 3.4%to 3.9%.

③ The prevalence of overweight and obesity has been significantly increased

In Chinese adults, the prevalence of overweight was 22.8%, and the prevalence of obesity was 7.1%, and the estimated total numbers were 200 million and over 60 million respectively. The prevalence of overweight and obesity among the adults in big cities were 30.0% and 12.3% respectively; children's obesity rate has reached 8.1%, hence requires more close attention. Compared with the nutrition survey data in 1992, the adult prevalence of overweight increased by 39%, and the adult prevalence of obesity increased by 97%, and it is predicted that a large increase will occur in the obesity rate in the near future.

④ The problem of abnormal blood lipid levels requires close attention

The prevalence of abnormal blood lipid levels among the adults in China was 18.6%, and it is estimated that 160 million people are suffering from it. The prevalence of various types of abnormalities were: hypercholesterolmia – 2.9%, hypertriglyceridemia – 11.9%, low blood HDL cholesterol – 7.4%. Beside, 3.9% of the subjects had borderline of high cholesterol level. It should be noted that there was no significant difference in prevalence of abnormal blood lipids levels among middle age and elderly subjects, as well as no significant difference between the urban and the rural population.

⑤ The dietary nutrition and physical activity are closely related to the chronic diseases

The survey results indicate that: high dietary energy, high dietary fat and less

physical activity are closely related to the occurrence of overweight, obesity, diabetes and abnormal blood lipid level; high salt intake is closely related to the risks of hypertension; and alcohol drinking is closely related to hypertension and abnormal blood lipid level. It should be particularly emphasized that those who had higher level of fat intake and least physical activity have the highest risks for the above mentioned chronic diseases.

Part III The proposed actions & measures

In order to achieve the strategic goal of building the well-being society in China, in light of the results from this survey and China's actual situation, and to start from addressing the most urgent needs and adhere to the principle of seizing the opportunities and giving guidelines according to different categories/issues, we will consolidate our work to improve people's nutrition status and the control and prevention of chronic diseases through policy support, market guidance and mass education:

1. To strengthen government leadership to promulgate relevant laws and regulations without loss the momentum and to integrate the improvement of people's nutrition and health into the 11th Five Year Development Plans at the national and local levels;

2. To consolidate the scientific guidance in the fields of agriculture, food manufacturing, distribution and marketing, etc., and bring into play their important roles in improving people's nutrition and health status;

3. To strengthen public education, advocate balanced diet and healthy lifestyles, and enhance people's awareness and capabilities for self-health protection. In order to to make full use of the information derived from this survey, relevant government ministries, commissions and agencies will be organized to prepare and publish the white paper on Chinese people's nutrition and health status, and series of monograph and popular scientific books. The survey database will be open to the public and the information sharing will be realized.

This survey has received support from the World Health Organization and the UNICEF, etc.

Table 1

1982，1992 and 2002 National Average Food Consumption by Urban & Rural Population in China (Gram/Reference Person/Day)

	In Total			Urban			Rural		
	1982	1992	2002	1982	1992	2002	1982	1992	2002
Rice & rice produce	217	226.7	239.9	217	223.1	217.8	217	255.8	248.4
Flour & flour produce	189.2	178.7	138.5	218	165.3	132.0	177	189.1	141.0
Other cereals	103.5	34.5	23.3	24	17	16.3	137	40.9	25.9
Tubers	179.9	86.6	49.5	66	46	31.9	228	108	56.2
Dried beans	8.9	3.3	4.2	6.1	2.3	2.6	10.1	4	4.8
Soy bean products	4.5	7.9	11.8	8.2	11	12.9	2.9	6.2	11.4
Dark color vegetables	79.3	102	91.5	68	98.1	88.1	84	107.1	92.8
Light color vegetables	236.8	208.3	183.7	234	221.2	163.8	238	199.6	191.3
Preserved vegetables	14	9.7	10.3	12.1	8	8.4	14.8	10.8	11.0
Fruits	37.4	49.2	45.7	68.3	80.1	69.3	24.4	32	36.6
Nuts	2.2	3.1	3.9	3.5	3.4	5.4	1.7	3	3.3
Poultry	34.2	58.9	79.5	62	100.5	104.4	22.5	37.6	69.9
Dairy products	8.1	14.9	26.3	9.9	36.1	65.8	7.3	3.8	11.2
Egg & Egg products	7.3	16	23.6	15.5	29.4	33.2	3.8	8.8	19.9
Fish, Shrimp	11.1	27.5	30.1	21.6	44.2	44.9	6.6	19.2	24.4
Vegetable Oil	12.9	22.4	32.7	21.2	32.4	40.2	9.3	17.1	29.9
Animal fat	5.3	7.1	8.7	4.6	4.5	3.8	5.6	8.5	10.5
Sugar, Starch	5.4	4.7	4.4	10.7	7.7	5.2	3.1	3	4.1
Salt	12.7	13.9	12.0	11.4	13.3	10.9	13.2	13.9	12.4
Soy Sauce	14.2	12.6	9.0	32.5	15.9	10.7	6.5	10.6	8.4

A reference person = 18 year-old man who performs light physical activity

Table 2

1982,1992 and 2002 National Average Nutrients Intake by Urban & Rural Population in China

(Reference person/day)

	National			Urban			Rural		
	1982	1992	2002	1982	1992	2002	1982	1992	2002
Energy(kcal)	2491.3	2328.3	2253.5	2450.0	2394.6	2137.5	2509.0	2294.0	2297.9
（KJ）	10423.5	9740.3	9428.8	10250.8	10019	8943.2	10497.7	9598.1	9614.2
Protein(g)	66.7	68.0	66.1	66.8	75.1	69.1	66.6	64.3	64.9
Fat(g)	48.1	58.3	76.2	68.3	77.7	85.6	39.6	48.3	72.6
Dietary fibre(g)	8.1	13.3	12.0	6.8	11.6	11.2	8.7	14.1	12.4
Retinol(μg)	53.8	156.5	152.9	103.9	277.0	226.5	32.7	94.2	124.6
Retinol Equiv. (μg)	119.5	476.0	478.8	147.3	605.5	552.8	107.8	409.0	450.3
Thiamin(mg)	2.5	1.2	1.0	2.1	1.1	1.0	2.6	1.2	1.0
Riboflavin(mg)	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.7	0.7
Ascorbic acid(mg)	129.4	100.2	89.8	109.0	95.6	83.1	138.0	102.6	92.3
Calcium(mg)	694.5	405.4	390.6	563.0	457.9	439.3	750.0	378.2	371.8
Iron(mg)	37.3	23.4	23.3	34.2	25.5	23.8	38.6	22.4	23.1
Phosphorus(mg)	1623.2	1057.8	980.3	1574.0	1077.4	975.1	1644.0	1047.6	982.1

A reference person = 18 years old man who performs light physical activity