

April 2012

China's Agriculture and Food Policies¹

1. Strategic Guidelines

Agricultural Law (revised in 2002)

First edition was approved by National People's Congress on 2nd July 1993, revised edition was approved on 28th December 2002.

The Law is aimed to consolidating and strengthening the position of agriculture as the foundation of the national economy, deepening the reform in rural areas, developing the productive forces of agriculture, pushing forward the modernization of agriculture, safeguarding the legitimate rights and interests of farmers and agricultural production and operation organizations, increasing the income of farmers, enhancing their scientific and cultural qualification, promoting the sustained, steady and sound growth of agriculture and the rural economy, and attaining the objectives of building a well-off society in an all-round way.

The Law contains 13 chapters and 99 articles. The titles of chapters are listed as below:

Chapter 1 General Provisions

Chapter 2 System of Agricultural Production and Operation

Chapter 3 Agricultural Production

Chapter 4 Circulation and Processing of Agricultural Products

Chapter 5 Grain Safety

Chapter 6 Input to and Support and Protection of Agriculture

Chapter 7 Agricultural Science and Technology and Education in Agriculture

Chapter 8 Agricultural Resources and Protection of Agricultural Environment

Chapter 9 Protection of the Rights and Interests of Farmers

Chapter 10 Development of the Rural Economy

Chapter 11 Law Enforcement and Supervision

Chapter 12 Legal Responsibility

Chapter 13 Supplementary Provisions

Grain Law (Draft, 2012)

On 21st February 2012, the Legislative Affairs Office of the State Council released a draft of a new Grain Law to solicit public opinions. The draft law was jointly prepared by the National Development and Reform Commission and the State Administration of

¹ The content of this issue of *Information Sheet* is largely based on the annexes of the report "*The Future of Food and Farming - Foresight Report's Implications for China*", prepared by Yuelai Lu, commissioned by UK Government Office for Science. For further inquiries, please contact Yuelai Lu at: y.lu@uea.ac.uk

Grain. According to the explanatory notice, safeguarding national grain security is the fundamental purpose of the Grain Law. It aims to ensure grain security by stabilizing grain output and intensifying control and supervision over the market.

The draft law applies to grains, edible vegetable oil, and oilseeds, as well as the production, distribution, and consumption of these commodities. It also defines the roles and responsibilities for different administrative departments in managing grain production, processing, trade, reserves, and market information dissemination.

The draft law contains 10 chapters and 97 articles. The 10 chapters are listed as below:

- Chapter 1 General Provisions
- Chapter 2 Grain Production
- Chapter 3 Grain Distribution and Processing
- Chapter 4 Grain Consumption and Conservation
- Chapter 5 Grain Quality Safety
- Chapter 6 Grain Macro Regulation and Reserve
- Chapter 7 Support to and Development of the Grain Industry
- Chapter 8 Supervision and Inspection
- Chapter 9 Legal Liability
- Chapter 10 Supplementary Provisions

Medium and Long-term Plan for National Food Security (2008-2020).

The Plan outlines the objectives, tasks, and specific programmes of food security.

Objectives: (i) increase food production capacity; (ii) utilization of non-grain food resources; (iii) strengthen international cooperation in grain and edible oil; (iv) perfect grain distribution system; (v) perfect grain storage system; (vi) further perfect grain process system.

Policies and measures to safeguard food security: (i) strengthen governments' food security responsibility, provincial government is responsible for the region's arable and water resource protection, grain production, distribution, storage and marketing regulation; (ii) strongly protect production resources, include arable and grassland; (iii) strengthen scientific and technological support to agriculture, establish the government led multiple founding system and encourage business sectors and farmer associations to disseminate agricultural technologies; (iv) increase agriculture input for infrastructure, finance service and production subsidies; (v) perfect grain macro control mechanism, to improve grain statistic system, emergency response system, grain distribution policies, and to strengthen grain administration system; (vi) promote healthy food consumption and reduce food chain waste; (vii) push forward food legislation; (viii) implement specific programmes and plans regarding grain production, distribution, storage, process and consumption.

The ten specific programme and plans identified include:

- (i) The plan to increase grain production capacity by 50 MT (2009-2020)
- (ii) Arable land protection and land reclaim development plan, led by MLR
- (iii) Water resource protection and development plan
- (iv) Agricultural and food science and technology development plan
- (v) Grain saving livestock development plan
- (vi) Edible vegetable oil development plan
- (vii) Modern grain logistic development plan

- (viii) Grain storage system development plan
- (ix) Grain processing industry development plan
- (x) Policies and measurements for healthy food consumption

12th Five-Year Plan for National Economic and Social Development (2011-2015)

This is China's most comprehensive development plan which covers all the important sectors of social and economic development. The Plan covers two important aspects of food system – food production and resource/environmental protection. The section of agricultural development, with the title of “*Strengthen Agriculture and Benefit Farmers, Speed up the Development of the Socialist New Countryside*”, outlines objectives of major aspects of agricultural development in the period of 2011-2015, include:

Chapter 5 Develop Modern Agriculture More Rapidly

- Become more Capable of Ensuring Food Security
- Carry out Strategic Agricultural Restructuring
- Accelerate Scientific and Technological Innovation in Agriculture
- Improve Agricultural Social Service System

Chapter 6 Expand the Ways in Which Farmers Can Increase Their Incomes

- Solidify and Raise Household Production Income
- Strive to Increase Wage Incomes
- Energetically Increase Transfer Income

Chapter 7 Improve Living and Working Conditions in the Countryside

- Improve Planning and Management of Towns, Townships and Villages
- Strengthen Rural Infrastructure
- Strengthen Public Services in Rural Areas
- Comprehensively Clean-up the Rural Environment

Chapter 8 Improve Systems and Mechanisms for Rural Development

- Uphold and Improve the Basic Rural Management System
- Develop a Sound System for Integrated Urban and Rural Development
- Enhance the Vitality of Economic Development in Counties

Chapter 21 Actively Respond to Global Climate Change

- Control Emission of Greenhouse Gases
- Enhance the ability to Adapt to Climate Change
- Extensively Develop International Cooperation

Chapter 22 Strengthen Resource Conservation and Management

- Save Energy and Resource Consumption
- Strengthen Water Resource Conservation
- Use Land Economically and Intensively
- Intensify the surveying, Protection and Rational Exploitation of Mineral Resources

Chapter 23 Vigorously Develop a Circular Economy

- Promote Cyclic Production
- Improve the Resource Recycling System
- Spread Green Consumption

- Enhance Policy and Technological Support

Chapter 24 Intensify Environmental Protection

- Reduce and Control Emissions
- Guard Against Environmental Risks
- Strengthen Environmental Monitoring

Chapter 25 Promote Ecological Protection and Remediation

- Construct Ecological Safety Barriers
- Strengthen Ecological Protection and Governance
- Establish an Ecological Compensation Mechanism

Chapter 26 Intensify the Development of System for Water Conservancy and Disaster Prevention and Mitigation

- Improve Capabilities to Guarantee Supply of Water
- Enhance Flood Control Capabilities
- Strengthen the Prevention and Control of Mountain Torrents, Geological Disaster, Meteorological Disasters and Earthquakes

Chapter 27 Increase Scientific and Technological Innovation Capabilities

- Promote Major Scientific and Technological Breakthroughs
- Accelerate the Establishment of a Technological Innovation System Led by Enterprises
- Accelerate the Construction of Science and Technology Infrastructure
- Strengthen Support Policies for Scientific and Technological Innovation

Chapter 49 Deepen Reform of the Prices for Resource Products and Environmental Protection Charges

- Improve the Price Formation Mechanism for Resource Products
- Reform of the System of Environmental Protection Charges
- Establish a Sound Mechanism for Trading in Resources and Environmental Property Rights

The Main Targets for Economic and Social Development in the 12th FYP Period

Item	2010	2015	Average annual increase (%)	Nature
Economic development				
GDP (RMB tln)	39.8	55.8	7	Anticipated
Share of services in GDP (%)	43	47	[4]*	Anticipated
Urbanization level (%)	47.5	51.5	[4]	Anticipated
Science, technology and education				
Nine-year compulsory education retention rate (%)	89.7	93	[3.3]	Obligatory

Senior secnd school gross enrollment rate (%)	82.5	87	[4.5]	Anticipated	
Ratio of R&D expenditures to GDP (%)	1.75	2.2	[0.45]	Anticipated	
Number of patents granted per 10,000 people	1.7	3.3	[1.6]	Anticipated	
Resources and environment					
Total cultivated land (bn ha)	1.818	1.818	[0]	Obligatory	
Reduction of water use per unit of industry VA (%)			[30]	Obligatory	
Efficiency coefficient of irrigation water	0.5	0.53	[0.03]	Anticipated	
Percentage of non-fossil fuels in primary energy resource consumption	8.3	11.4	[3.1]	Obligatory	
Reduction of energy per unit of GDP (%)			[16]	Obligatory	
Reduction of CO ₂ emissions per unit of GDP (%)			[17]	Obligatory	
Reduction of major pollutant emission (%)	COD		[8]	Obligatory	
	SO ₂		[8]		
	Ammonia-N		[10]		
	NO _x		[10]		
Forest growth	Forest coverage (%)	20.36	21.66	[1.3]	Obligatory
	Forest volume (bn m ³)	13.7	14.3	[6]	
People's life					
Urban per capita disposable income (RMB)	19,109	>26810	>7	Anticipated	
Rural per capita net income (RMB)	5,919	>8310	>7	Anticipated	
Registered urban unemployment rate (%)	4.1	<5		Anticipated	
Increase in urban employment (mln)			[45]	Anticipated	
Urban residents covered by basic pension insurance (mln)	257	357	[1]	Obligatory	
Urban and rural residents covered by one of the three basic medical insurance systems (%)**			[3]	Obligatory	
Low-income housing units built (mln)			[36]	Obligatory	

Total population (bn)	1.341	<1.39	<7.2 ‰	Obligatory
Life expectancy	73.5	74.5	[1]	Anticipated
<p>* “[...]” indicates five-year cumulative amount</p> <p>** The three basic medical insurance refers: basic medical insurance for urban workers; basic medical insurance for non-working urban residents; new rural cooperative medical insurance scheme.</p>				

2. Food Production

12th Five Year Plan for Agricultural and Rural Economy (2011-2015)

The overall objective of agricultural and rural development in the 12th YFP period are (i) steadily increase production capacity of grain and other agricultural products; (ii) significantly increase farmer income; (iii) make significant progress in new countryside development. To achieve the objectives, the Ministry of Agriculture will take actions from the following seven aspects:

Steadily Increase the Grain Production Capacity

- Stabilize grain planting area
- Optimize grain variety structure
- Strengthen the redevelopment of main grain production areas
- Increase per unit area yield

Substantially Improve the Level of Agricultural Material and Equipment

- Strengthen science and technology innovation and professional training
- Strengthen infrastructure development
- Accelerate agricultural mechanization and development of facility agriculture
- Building up the capacity for disaster prevention and reduction

Adjust and Optimize the Structure of Agricultural and Rural Economy

- Deepening agricultural structure adjustment
- Accelerate the development of agricultural product processing industry
- Enhance township enterprise development
- Promote agricultural services
- Foster emerging rural industries

Increase Farmer Income

- Steadily increase incomes from household business operations
- Strive to increase wage incomes
- Effectively increase transfer income

Enhance Agricultural and Rural Public Services

- Strengthen the development of agricultural public service system
- Enhance rural infrastructure construction

- Strengthen rural social services

Prefect and Innovate Rural and Agricultural Development Mechanism

- Prefect rural land administration system
- Develop multiple types of operations
- Further develop farmer technical associations
- Raise the quality of agricultural industry development
- Strengthen the establishment of modern agricultural demonstration zones

Protect Rural Ecological Environment

- Strictly protect arable land
- Strengthen grassland protection
- Strengthen water resource and agricultural biological resource protection
- Push forward agricultural energy saving and emission reduction and rural environmental management

The Main Targets for Agriculture and Rural Economic Development in the 12th FYP Period

Item	2010	2015	Average annual increase (%)
Agricultural products supply capacity			
Grain crop sown area (100 M mu)	16.48	>16.0	
Grain production capacity (100 M ton)	>5.0	>5.4	
Cotton total production (10000 ton)	596	>700	>3.27
Yield of oil bearing crops (10000 ton)	3230	3500	1.62
Yield of sugar crop (10000 ton)	12008	>14000	>3.12
Total meat (10000 ton)	7925	8500	1.41
Eggs (10000 ton)	2765	2900	0.96
Milk (10000 ton)	3780	5000	5.75
Total output of Aquatic Products (10000 ton)	5373	>6000	>2.23
Pass rate of regular quality test of agricultural products (%)	94.8	>96	>[1.2]
Agricultural production structure			
Proportion of livestock production value to total agricultural production value (%)	30	36	[6]
Proportion of fishery output value to total agricultural output value (%)	9.3	10	[0.7]
Ratio of the value of agricultural products processing industry to the total value of agricultural output	1.7	2.2	[0.5]
Average annual growth rate of added value of township enterprises (%)			10
Agricultural technology and equipment			

Contribution rate of technical progress (%)	52	>55	> [3]
Total mechanical power (100 M KW)	9.2	10	1.68
Level of mechanisation in ploughing, sowing and harvesting (%)	52	60	[8]
Increase in irrigated area (100 million mu)			[0.4]
Irrigation water use efficiency	0.5	0.53	[0.03]
Number of rural skilled population (10000)	820	1300	6.8
Agricultural production operation and management			
Number of households associated to production association (100 million)	1.07	1.3	3.97
Proportion of large scale dairy cattle farm (%) (annual in stock number over 100 heads)	28	>38	> [10]
Proportion of large scale pig farm (%) (annual slaughter number over 500 heads)	35	50	[15]
Agricultural benefits and farmer income			
Annual growth rate in added value of agricultural, forestry and livestock output			5
Rural labour transfer (10000 people)			[4000]
Rural per person income (Yuan)	5919	>8310	>7
Resource utilisation and environmental protection			
Utilization rate of crop residues (%)	69	>80	>[11]
Percent of biogas pit installed in suitable households (%)	33	>50	>[17]
Release various aquatic breeding (100 million heads)	289		[1500]
[...] five-year cumulative number			

The Ministry of Agriculture also made the FYP in the specific sectors, include:

- 12th Five Year Plan of Crop Production (2011-2015)
- 12th Five Year Plan of Livestock Development (2011-2015)
- 12th Five Year Plan of Fishery Development (2011-2015)
- 12th Five Year Plan of Feed Industry (2011- 2015)

3. Food Safety

Food Safety Law (2009)

Food Safety Law (FSL) was approved by China's National People's Congress (NPC) Standing Committee on 28 February 28 2009. The FSL went into effect on 1 June 2009. The FSL aims to enhance monitoring and supervision, toughen safety standards, recall substandard products and severely punish offenders. To reinforce the implementation of SFL, the State Council issued the implementing regulation on 20th July 2009, and set

up the Food Safety Committee on 6 February 2010. The Committee is responsible for the coordination of food safety work; making major policies and measurements on food safety, supervising the fulfillment of food safety responsibilities.

The FSL covers the following 10 chapters:

Chapter 1. General Provisions

Chapter 2. Surveillance and Assessment of Food Safety Risks

Chapter 3. Food Safety Standards

Chapter 4. Food Production and Trade

Chapter 5. Food Inspection and Testing

Chapter 6. Food Import and Export

Chapter 7. Response to Food Safety Incidents

Chapter 8. Supervision and Administration

Chapter 9. Legal Liabilities

Chapter 10. Supplementary Provisions

4. Food Consumption

Food and Nutrition Development Guideline (2011-2020)

Led by MoA and MoH, the State Food and Nutrition Consultant Committee (SFNCC) is preparing the Food and Nutrition Development Guideline (2010-2020). The Guideline will cover the aspects of food supply, food consumption, nutrients intake, balanced diet, and diseases control. The Guideline will also set out the goal of food and nutrition development in 2015 and 2020, as well as enabling policies, technology and investment to achieve the goal.

State Grain Administration Suggestion to Combat Food Waste

On 12th April 2010, the State Grain Administration issued Suggestion to Combat Food Waste. The Suggestion outlined the following actions to combat food waste in China:

- Through broad publicity campaign to raise awareness on food saving
- Enhance grain purchase and storage, reduce grain waste in storage
- Accelerate grain logistic infrastructure development, reduce grain waste in transportation
- Improve the standard of grain and oil products, enhance the efficiency of grain and oil process
- Develop and disseminate new technologies for grain waste reduction
- Push forward the trusted grain and oil programme, encourage grain and oil business to combat grain waste, provide services to facilitate public combat food waste.

5. Environmental Protection

Suggestions on Agricultural and Rural Energy Saving and Emission Reduction (ESER)

Released on 14th December 2011 by Ministry of Agriculture, as sectoral response to the national action plan.

Targets

By 2015, compare with 2010, total agricultural COD emission reduced by 8%, ammonia nitrogen emission reduced by 10%; coverage of soil test programme reaches to 60%, fertilizers use efficiency increase 3%; promote unified pest and diseases prevention and control programme, unified pest and diseases prevention and control covers 30% of major crops by 2015; promote green pest and diseases prevention and control, abolish a patch of high poison, high residue pesticides; promote ESER planting system, reduce the high energy consumption procedures; over 50% of intensive livestock farm or livestock raising community equipped with waste treatment facilities; households with biogas reaches 55 million, annual biogas consumption reaches 21.6 billion M³; phase out high energy consumption and high pollution machines and fishing boats, update township enterprises for energy saving, increase rural production energy efficiency.

Actions

Energy Saving in Agricultural production

- Enhance energy saving in agricultural machinery and fish boat
- Promote energy saving in crop planting system
- Promote energy saving in township enterprises
- Promote energy saving in rural domestic life

Actively Prevent and Control Agricultural Non-point Pollution

- Dissemination of technologies for fertilisers, pesticides and water saving
- Dissemination of technologies for ecological livestock raising
- Dissemination of technologies for health aquaculture

Step Up the Efforts to Promote Reuse of Rural Waste

- Development of rural biogas
- Implement rural cleanup programme
- Comprehensive use of crop residues
- Collection and reuse of mulching plastic film

Provide Effective Enabling Measures to Rural and Agricultural ESER

- Strengthen the leadership and consensus
- Design and improve relevant policies and regulations
- Increase financial input
- Strengthen technical support
- Initiate extensive training and dissemination

6 Research and Extension

National 12th Five-Year Plan on Science and Technology Development

The objectives

On 13 July 2011, the National 12th Five-Year Plan on Science & Technology Development was released by the Ministry of Science and Technology (MOST). The Plan aims to push China forward toward the an innovative nation, by significantly boosting the nation's innovation capacity and international competitiveness in high-tech sectors and achieving breakthroughs in priority and key technical fields.

Some other targets under the 12th five-year plan on scientific and technological development are included in the table below:

Targets	2010	2015
R&D expenditure as percentage of GDP	1.75%	2.20%
R&D personnel per 10,000 workers	33/man-year	43/man-year
Ranking of citations in international science papers	8th	5th
Invention patent ownership per 10,000 persons	1.7 pieces	3.3 pieces
R&D personnel's invention patent applications	10 pieces/hundred man-years	12 pieces/hundred man-years
Total contract deals in domestic technology market	RMB 390.6 billion yuan	RMB 800 billion yuan
High-tech value added as percentage of	13%	18%

manufacturing sector value added		
Percentage of civic scientific literacy in the population	3.27%	5%

The contents

1. Situations and demands
2. Overall ideas, targets and strategies
 - 1) Overall ideas
 - 2) Targets
 - 3) Strategies
3. Accelerate the implementation of Major projects of national science and technology.
4. Make great efforts to nurture and develop emerging industries of strategic importance.
5. Forge ahead with breakthroughs in key technologies in major areas.
 - 1) Strengthen agricultural technological innovation in rural areas.
 - 2) Promote technological upgrading in key industries.
 - 3) Accelerate technological innovation in modern service industry.
 - 4) Strengthen the development of technology for people's livelihood.
 - 5) Build technology system for energy, resources and environment to support sustainable development.
6. Forward deploy basic research and frontier technology research.
 - 1) Continuously strengthen basic research.
 - 2) Enhance frontier technology research.
7. Strengthen the construction of scientific and technological innovation bases and platforms.
 - 1) Strengthen the layout of construction of scientific and technological innovation bases.
 - 2) Strengthen the development and application of scientific and technological resources.
 - 3) Promote the construction, opening and sharing of scientific and technological platforms.
8. Vigorously cultivate innovative technology talents
 - 1) Expand and optimize the team of creative technology talents.
 - 2) Cultivate a number of high-level leading technology talents and creative teams.
 - 3) Transform and improve the pattern of creative talent training.
 - 4) Support scientific and technical personnel to make innovation and start a business.
9. Enhance the level of opening and cooperation in science and technology.
 - 1) Substantially increase the degree of internationalization of research activities.
 - 2) Improve the inter-governmental science and technology cooperation mechanism.
 - 3) Actively participate international technological organizations and international large science programs.
 - 4) Strengthen scientific and technological cooperation with developing countries.

- 5) Strengthen scientific and technological cooperation with Hong Kong, Macao and Taiwan Region.

10. Deepen the reform of science and technology system, and comprehensively promote the establishment of national innovation system.

- 1) Strengthen the macro-management and co-ordination for science and technology.
- 2) Make innovation in mechanism of combining learning with research and production.
- 3) Promote the reform of management system for technology programs and research funds.
- 4) Deepen the reform of technology evaluation and incentive system.
- 5) Comprehensively promote the construction of national innovation system.

11. Strengthen the implementation and development of science and technology policies, and optimize the environment for whole social innovation.

- 1) Implement and improve policies and regulations for science and technology.
- 2) Implement in depth the strategy for intellectual property rights and technical standards.
- 3) Continuously increase the whole social investment in science and technology.
- 4) Optimize the scientific and technological achievements transformation and industrialization environment .
- 5) Strengthen the popularization of science and technology.
- 6) Strengthen and improve grass-roots science and technology work.

12. Effectively guarantee the implementation of the plan.

- 1) Strengthen the organization and guidance for the implementation of the plan.
- 2) Push forward the connection and coordination of the implementation of the plan.
- 3) Focus on the assessment and dynamic adjustment of the plan.
- 4) Strengthen the foundation work of science and technology management.

Relevant elements on agriculture and food system

- 1) Raise the capability of transferring science and technology into practice
 - Strengthen agricultural S&T transferring system
 - Continue to implement various dissemination programmes
 - Make full play of the leading and demonstration role of leading enterprises, cooperatives, and large scale livestock and crop farms;
 - Actively nurture small and medium scale technical-intensive agricultural enterprises and cooperatives
 - Develop technical service platform, support framers entrepreneurship.
- 2) Carry out rural technical entrepreneurship initiatives, establish new type of rural technology service system
 - Boost the initiative of specially appointed technical agent (*Keji Tepaiyuan*),
 - Support the development of national agricultural technical parks and zones,
 - Strengthen the integration and demonstration of rural information technology;
 - Establish the nation-wide rural public service system which integrates extension services, entrepreneurship services and diversified technical services.

- Establish novel rural S&T service system which is centered on leading agricultural enterprises, affiliated to farmer professional organizations.
 - Continue to perfect various forms of rural technical services, which include extension services provided by universities and research institutes, Court of Agricultural Experts, rural technology cooperation organizations, Spark programme etc.
 - Continue to push forward science popularization in rural area.
- 3) Create new crop varieties using gene transfer technology
- Achieve breakthrough in key techniques on gene cloning and function test, large scale gene transfer and biosecurity on major crop and livestock production,
 - Improve gene transfer biological cultivation and security assessment system, gain an array of functional gene with high application value and self-owned IPR,
 - Create a number of important gene transfer varieties with high diseases and pest resistance, high stress tolerance, high quality, high yield and high efficient,
 - Commercialize GM cotton and maize, raise overall level of biobreeding,
 - Strengthen the capacity of agricultural innovation capacity, enhance agricultural efficiency and farmer income.
- 4) Foster emerging industries of strategic importance
- Bio-seed industry – priority will be on modern bio-breeding techniques and commercialisation of varieties, accelerate wide utilisation of new plant and livestock varieties;
 - Agricultural biomedicine - focus on leading edge technologies of target discovery and drug *molecular design, high through put screening, nano-scale* agricultural biomedicine
 - Bioenergy – emphasizes on production of vehicle fuel from biogas, cellulosic liquid fuel, liquid fuel using agricultural waste through gasification and pyrolysis, biodiesel, non-grain bioethanol,
- 5) Strengthen agricultural technology innovation
- Capture key technologies for agriculture and rural development
 - Increase technology transformation
 - Carry out rural technical entrepreneurship initiatives, establish new type of rural technology service system
- 6) The priorities of agricultural technical innovation
- Technologies for high grain yield
 - Multi-functional agricultural equipments
 - Green and safe food process
 - Marine agriculture
 - Water saving agriculture
 - Rural information
 - Rural community and residence
- 7) Future basic and cutting edge research in agriculture
- Research on high yield, high stress resistance, high quality and high efficiency crop;

- Research on high productivity, high quality and high diseases resistance of agricultural animals;
- Efficient utilisation of farm land;
- Sustainable farming system;
- Bio-safety of agricultural produces.

8) Water pollution control and management

9) Promote circulate economy, recycle agricultural and urban wastes

Natural Science Foundation of China (NSFC) priority areas to support in 12th FY period

Natural Science Foundation of China (NSFC) is an organization directly affiliated to the State Council for the management of the National Natural Science Fund. It is equivalent to the UK Research Council. The funds of NSFC mainly come from the State financial allocations. NSFC supports basic research and some of applied research, identifies and fosters talented researchers in the realm of science and technology, accelerates the progress of science and technology, and promotes the socioeconomic development in China. The budget for the NSFC was 10.4 billion RMB in 2010.

The following are the agricultural and food related areas NSFC to support in the 12th FYP period.

Biodiversity and conservation mechanism

Research themes: relationship between biological evolution and diversity; formation and biodiversity distribution pattern and conservation mechanism at different scales; relationship between biodiversity and ecosystem function; restoration of biodiversity of degraded ecosystem

Assessment and explore biological germplasm resources

Research theme: theory and strategy for biological genetic resource protection; genetic diversity and differentiation of agricultural biological wild relatives and wild populations; variation and evolution of biological resources; identification and assessment of good gene resource; new method of bio-resource preservation

Water and nutrients demand and pathways of high efficient use of major crops

Research theme: water and nutrients demand by high yield and high quality crops; mechanism and regulation of water and nutrient high efficient use; moisture movement in the field and crop response; ecological interactions in rhizome; mechanism of nutrients and moisture synergies.

Disease and pest epidemiological characteristic and control mechanism for major crops

Research theme: mechanism of major crop diseases and pests occurrence; interaction between pathogen, insects and crops and co-evolution; regional occurrence of agricultural diseases and pests and control.

Epidemiology and control of major agricultural animal diseases

Research them: pathology and pathogen ecology of major animal diseases; interaction between pathogen and host; molecular mechanism of interspecies pathogen transmission.

Biochemical mechanism of food storage and process

Research theme: mechanism of food quality change and maintenance; change of bioactive substance and nutritional elements in food processing and storage; formation and transmission of toxic substance; methods of toxic substance and harmful microbe inspection and risk assessment.

(END)