Modern Information Technology in Enhancing Rural Outskirts Management in Beijing

Beijing Rural Economic Cooperation
Management Office

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Outline

    According to the general requirements of the Ministry of Agriculture and the Beijing municipal government, we have taken the information technology construction in rural areas of Beijing as an important part of agricultural management. Through the application of modern information technology, we promoted the standardization of operation management and system construction in rural management. After pilot demonstration, comprehensive promotion and sound improvement over a decade, we have built an integrated network of information management system, which sets "foreign-funded enterprises" management as the core, and covers four vertical levels as cities, counties, towns and rural villages. We have preliminarily achieved the relatively refined information management of the people, property and material in rural areas, which has effectively supported government decision and raised the overall management level of Beijing rural outskirts.

LOGO

I History of Development

1.1 Seize the Opportunity to Lay a Solid Foundation

In 2000, when Beijing issued the " Beijing Agricultural Department Development Plan 2000 2010 (Outline)", Beijing Rural Economic Management Station seized the opportunity to conduct survey , study the necessity and feasibility to promote information technology management, and organized software development and pilot research in Houshayu town , Shunyi District and Beiqijia town, Changping District. In 2005 , the municipal government and municipal commission required all levels of departments to improve grassroots work, namely, to achieve "exact amount, clear situation, accurate number, high quality", thus the management of information technology became one of the significant tasks to implement the requirements above in the rural area. The Municipal Agriculture Committee, the Agriculture Commission , the Municipal Development and Reform Commission , the Municipal Finance Bureau, the Municipal Information Office jointly issued " Advice on Promoting Information Technology Management in Rural Areas" (Beijing Agricultural Development Commission [2005] No. 19 Document) , to implement a comprehensive rural information technology construction in rural outskirts. Thanks to the well preparation by the Economic Management Station, we smoothly assumed the task of information technology management in rural outskirts, then completed software upgrade, hardware configuration, personnel training, and data collection initialization entry in the very same year. We achieved systematic, standardized, institutionalized and dynamic management of economic operation station not only in the municipal level, but also in 14 outskirts (Counties), 192 towns, and 4,023 village level collective economic organizations.

LOGO

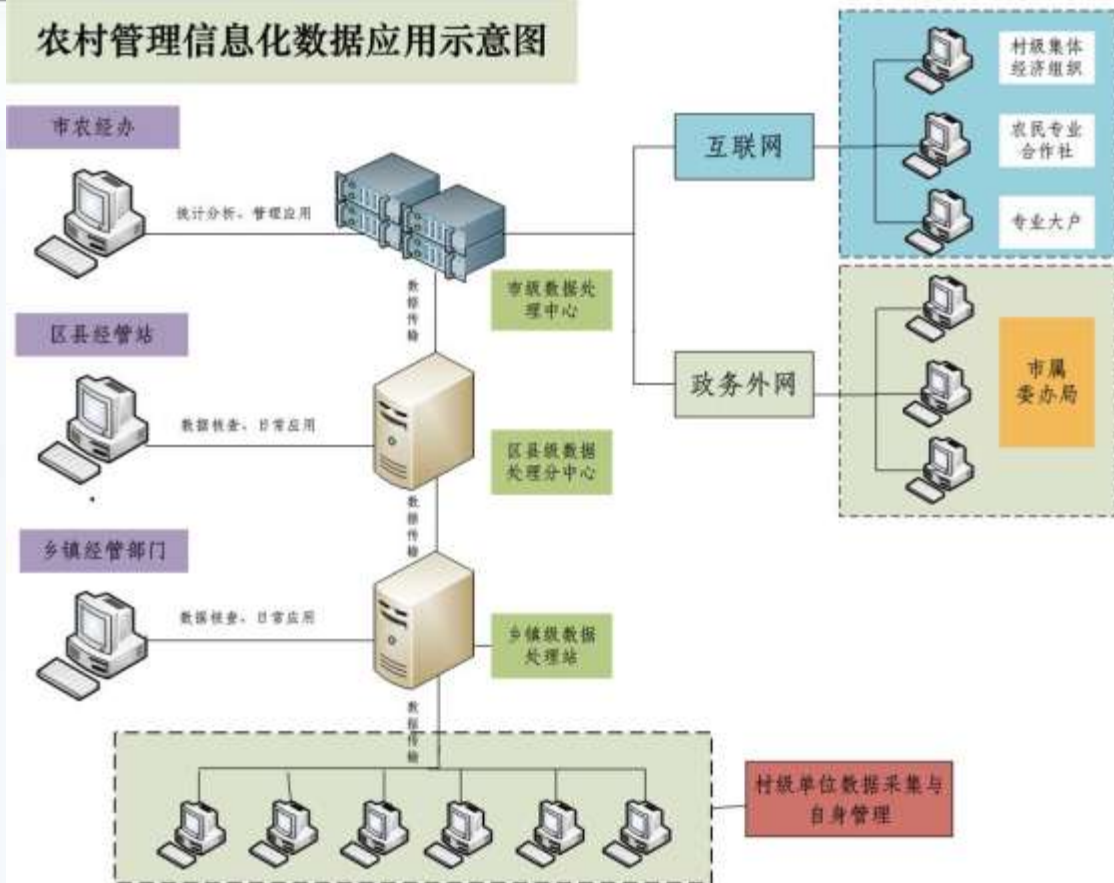农村管理信息化数据应用示意图

I History of Development

In the "Eleventh Five Year" period, we adapted to the new situation and new requirements for rural administration, gradually enriched the contents of information management construction in rural areas. First, we constructed the public service platform, to achieve the job requirement of "full coverage, wide openness, connecting with all levels of administration". In 2009, we developed "Beijing Agricultural Land Transfer Information Network". In 2010, we constructed "Beijing Rural Collective Assets Transaction Management Network". In 2011, we developed "Beijing Farmer Cooperatives Network". Second, we promoted online economic audit in rural areas, and achieved rapid and regular audit in 9 outskirts and counties, as well as in154 towns. Third, we completed a vertical network management system at city , county , town and village levels, as well as pilot construction of "four networks, four transmission", fully realized informationalization, networking and automation in operating rural economy and social affairs. Fourth, we settled 1,300 touchscreen computer applications construct pilot villages, and make party affairs and village affairs more transparent, in order to provide advanced means of democratic management and supervision to the rural population. Fifth, we integrated social administration system of economic cooperation office with nature information system of Agricultural Academy of Science. Through the data space processing technology, we achieved effective integration of the above two management systems, and built natural and socio economic information management platform in the outskirts. Sixth, we strengthened team construction, and achieved the sustainable information development in dealing with rural affairs .

LOGO

1.3 Top Level Design to Deepen the Development

In the "Twelfth five year" period, in accordance with the principle of resource sharing and top level design, we integrated the "village management system" and "Agricultural Economic platform", and developed "foreign-funded Regulating Platform in Rural Areas in Beijing" (referred to as the "foreign funded" platform).

The overall design: "four levels, three flows." Four levels refer to the city, county, town and village level. Three flows refer to data stream, management guidance flow, external information service flow.

Main functions: six functions including data collection, statistical analysis, early warning supervision, online approval, one network office and online study.

The main role: achieved one network office, whole process monitoring and integrated management of 2,400 rural cadres in the city , county and town levels, and over 4,500 village level personnel concerning economic management.

办公OA系统

农村集体资产管理系统

农村土地承包与流转

农村财务与收益分配

涉农(补贴)资金监管

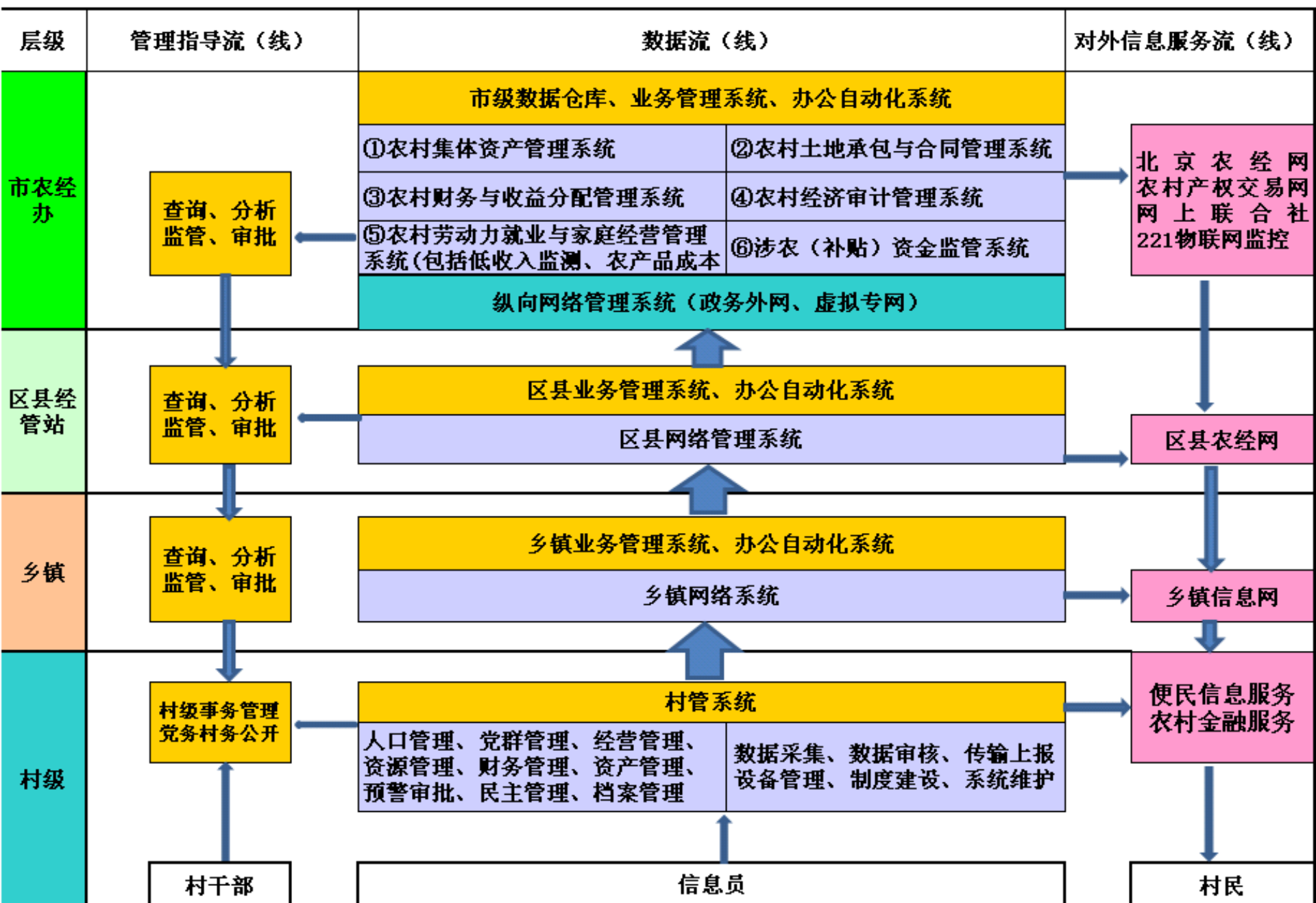人口劳动力与家庭经营

农村经济审计

党务村务公开

专业应用

在线培训系统

物联网

农经网

农民专业合作社

农村集体产权交易

北京市农村"三资"监管平台总体架构示意图

层级	管理指导流（线）	数据流（线）		对外信息服务流（线）
市农经办	查询、分析 监管、审批	市级数据仓库、业务管理系统、办公自动化系统		北京农经网 农村产权交易网 网上联合社 221物联网监控
		①农村集体资产管理系统	②农村土地承包与合同管理系统	
		③农村财务与收益分配管理系统	④农村经济审计管理系统	
		⑤农村劳动力就业与家庭经营管理系统（包括低收入监测、农产品成本	⑥涉农（补贴）资金监管系统	
		纵向网络管理系统（政务外网、虚拟专网）		
区县经管站	查询、分析 监管、审批	区县业务管理系统、办公自动化系统		区县农经网
		区县网络管理系统		
乡镇	查询、分析 监管、审批	乡镇业务管理系统、办公自动化系统		乡镇信息网
		乡镇网络系统		
村级	村级事务管理 党务村务公开	村管系统		便民信息服务 农村金融服务
		人口管理、党群管理、经营管理、资源管理、财务管理、资产管理、预警审批、民主管理、档案管理	数据采集、数据审核、传输上报设备管理、制度建设、系统维护	
	村干部	信息员		村民

II Main Approaches

2.1 clear thinking and clear tasking

2.2 unified planning and graded responsibility

2.3 sharing resources and avoiding duplication

2.4 pilot demonstration and step by step implementation

2.5 settling the personnel and enhancing training

2.6 sound system and standardized management

2.7 various funding and guarantee investment

2.8 regular assessment, tracking, and guiding

2.1 Clear Thinking and Clear Tasking

General idea: focusing on setting city rural outskirts' leading position in agricultural modernization, deepening the research on status quo and needs of the city, district, town and village level management; on the basis of outskirts foundation and practicality, deepening our understanding of the actual significance of the project research; setting rural financial computerization as a starting point, centering on the comprehensively enhancing rural economic management level, adhering to the three basic principles of "innovation, standardization and practicality", hiring experts as technical advisers, setting the force and work in conjunction with relevant units to conduct breakthrough research methods, observing systems engineering methods and steps, completing the study and construction phases of the project , actively and steadily pushing forward rural administration and information technology services development, in order to support economic development and the farmers' income growth, and achieve social stability in the efficient manner.
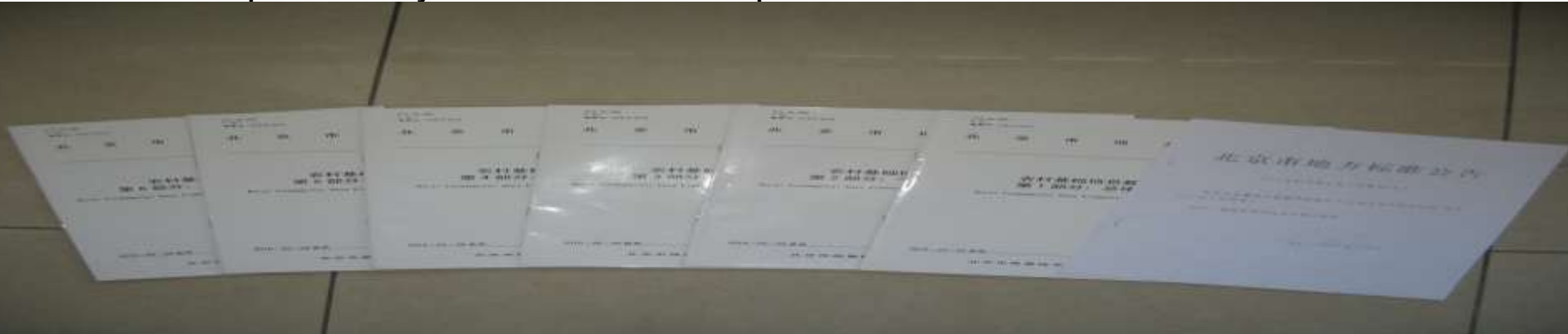
Task building: in 2002, the Municipal Agro-industry Committee and the Agricultural Commission jointly issued "Opinions on Promoting Information Construction in Rural Administration", proposed that "by the end of 2006, we shall fundamentally realize information construction in rural administration in all towns and 90% of villages"; in 2005, with the accelerated pace of information construction, five ministries, commissions , Offices in Beijing jointly issued "Advice on the Promotion of Information Construction in Rural Administration", deciding to promote the comprehensive information construction in rural areas in 2005. The tasks go as follows: first, improving infrastructure construction; second, organizing professional personnel; third, improving basic data collection and data update.

2.2 Unified planning and graded responsibility

Information management construction in rural areas is a system which needs unified planning and all levels of cooperation. The information management construction in Beijing rural outskirts, from the outset, comes from the city's unified planning, including the unified construction goal, the unified software development, the unified employment qualifications and the unified management system. Setting these "four unifications" as the basis, we clarify the cooperative responsibility at city, county, town and village levels on information management construction in rural areas. The city level construction is led by the Municipal Agriculture Committee and Agriculture Commission, with the co efforts from the Municipal Development and Reform Commission, the Municipal Finance Bureau, and the Municipal Information Office, and municipal economic management station is responsible for the specific administrations. To achieve this, the station has founded information management development branch, to deal with the daily management of municipal information construction in rural areas. The work is charged by the leadership of the county supervisor, with the specific responsibility taken by the Agricultural Commission, the Development and Reform Commission, the Finance Bureau, the Information Office and other units, with the clear notice of the leading unit. At the same time, the township also need to take responsibility, be clearly noticed of their departments and personnel, to ensure that this task is assigned to specific units and personnel, and to implement the accountability system.

2.3 sharing resources and avoiding duplication

■ Information management construction in rural areas shall adhere to the principle of sharing resources and avoiding duplicated construction. Based on the basis and condition of information management construction in rural areas, and with the full employment of the existing network hardware, software condition and technical capacity. In allusion to China's current management situation of "thousands of lines above with only a needle in the grass roots", the software development needs to meet both the social and economic management requirements in the grass root level, and the needs of economic management department and other governmental departments. In order to observe the principle of sharing resources, we established Beijing municipal standards of "Rural Infrastructure Data Element" (DB11 / T 699 2010), promulgated and carried out by the Municipal Quality and Technical Supervision Bureau.

2.4 pilot demonstration and step by step implementation

■ According to principle of "pilot demonstration first and then point to an area", since 2000, the rural information management construction in our city, borrowing experiences from fraternal provinces such as Guangdong (South China Sea, Shenzhen, Dongguan) and Zhejiang, fully implement the "rural management information" construction. In 2002, municipal economic management station had successful pilot research of rural information management development in Qijia town, Changping District, and then promoted and demonstrated this successful experience without delay . In 2003, all districts and counties, in accordance with the requirements, settled implementation programs in rural management, and completed pilot demonstration of information technology construction in rural areas. After five years of pilot and demonstration, till 2005, we have achieved comprehensive information management construction in all levels of rural areas such as city outskirts, counties, towns and villages, covering all 4 agricultural economic management stations, 14 outskirts (counties) stations, 192 town level departments and 4,023 village collective economic organizations.

2.5 settling the personnel and enhancing training

- Advanced technology and equipment, together with advanced management information system, after all, is operated by people. In this sense, high quality information personnel plays an significant role in information construction. The municipal agricultural Commission and the Municipal Agro industry Committee requests that the rural information management construction units shall be equipped with professional/ part time system administrators, operators and auditors. All the administrators, operators and auditors must attend the unified training organized by the city and county economic management stations. The personnel, when passing the qualification examinations, will be issued the "Beijing Rural Management Information Qualification Certificates", after that, they would took a post. By the end of 2007, the city, on the basis of village level financial accounting personnel and cadres at all levels, found a responsible information management team in rural areas. From 2007 onwards, the city finance has invested 3.5 million RMB, and agricultural economical departments has organized an unified information technology teams training and at city , county , town and village levels.

2.6 sound system and standardized management

- In order to strengthen management and ensure the safe and stable operation of "Beijing Rural Management Information System", according to the requirements of Municipal Agriculture Committee and the Agriculture Commission, the city economic management station settled and issued19 rules and regulations, including "Beijing Rural Management Information Management Approach", "Job Responsibilities and Norms of Information Administrators, Operators, and Auditors of Beijing Rural Management", "Beijing Rural Computerized Accounting Management Approach". These rules and regulations standardized the organization and personnel responsibility of rural information management construction; unified computer hardware configuration and management; clarify the use and management of software; and set requirements for the information security, emergency management and file management of information management construction in rural areas. All in all, these systems enabled the construction of rural information management rules to follow.

2.7 various funding and guarantee investment

■ As for the characteristics of large investment in information management construction in rural areas, we used a hierarchical approach to share the burden. The expenses of software development, research, technical training, operation and maintenance, hardware equipment of village level grass roots and municipal data center construction expenses are covered by municipal finance; the county and township rural information management construction expenses are covered by the city district matching grants. From 2000 to 2013, the city's subsidy for rural information management construction, including hardware investment, software development, system operation and maintenance, personnel training and information gathering reached 384 million RMB, including city financial investment for 228 million RMB; county, township and village collective economic organizations and financial investment for 156 million RMB.

2.8 Regular assessment, tracking, and guidance

- In order to implement rural information management construction, the Municipal Agro industry Committee, the Municipal Agriculture Commission and the municipal economic management station plant information management construction in rural area in the working schedule, the year end assessment, with usual tracking and guidance. The Municipal economic management station regularly inspected information management construction in rural and timely coordinate and solve problems in work. The software development company set up offices in Beijing, in order to solve technical problems occurred in rural information management construction, and provide grass root door to door service.

III Application and Effect

3.1	*To standardize management and promote democratic construction in rural*
3.2	*To change the view of management among rural grassroots cadres, improve the management quality*
3.3	To strengthen agricultural and economic institution team building, improve the significance of economic management in rural area
3.4	*To reduce workload, improve work efficiency and quality*
3.5	*To strengthen the service function of rural economic management department in support of scientific decision making of the government*
3.6	*To promote comprehensive planning of urban and rural areas, narrow the gap between urban and rural areas*

LOGO

3.1 To standardize management and promote democratic construction in rural areas

- Rural grass roots organizations, in implementing management practices, are spotted as not standardized, open or transparent in many cases, which sometimes would arouse discontent of rural populations and trigger mass petition. Through rural information management construction, the personnel, financial, and material management in outskirts and village organizations can be immobilized, formatted and routinized, which can effectively control the random and artificial intervention. Through the network based management software can there automatically generate financial disclosure open to all the community members and villagers, which would modernize the administration of rural grass roots organizations, promote grass roots democracy and improve the relationship between cadres and the masses, and build a harmonious society with rural stability in turn. Through touch screen computer, the village level financial and operational affairs, as well as the Party's principles and policies, are open to all the rural mass without any delay; the villagers can search and check information as they like, which improves the transparency of village affairs, and strengthens the supervision and management of the villagers.

- The comprehensive implementation of rural information management construction has aroused concern and attention in the vast majority of town and village level cadres. Many cadres feel to the person the arrival of the information age and the new requirement of improving their governing ability and updating their administration methods. They generally believe that this is the trend. For this reason, they not only plan and organize information technology construction in person, but also take the lead in learning computer skills and network knowledge. Information management construction in rural areas has played a positive role in improving grassroots cadres' administration quality and administration level.

3.3 To strengthen agricultural and economic institution team building, improve the significance of economic management in rural areas

- The specific information management construction in rural areas is organized and administered by the economic management department . The economic management in outskirts and rural areas has firstly achieved informationalization, all levels of agricultural economic institutions has then updated information equipment in office. The team of agricultural and economic institutions is further strengthened, the level of operation proficiency quickly upgraded, the position of economic management in both party committee and the government has been obviously improved.

- In October 10, 2011, Liu Qi, the CPC Central Committee member and Party Secretary of Beijing conducted research in Pinggu District economic management station. He gave full recognition to the work, and reasserts its importance.

- In November 7, 2012 , Chen Xiaohua, Deputy Minister of Agriculture and Zhang Yuxiang, the party member , inspected Beijing agricultural and rural informatization. They fully affirmed and highly appraised the rural information management development.

- The main leaders of the Ministry of Agriculture, the municipal government , Municipal People's Congress , Municipal CPPCC , Municipal Commission for Discipline Inspection and the Organization Department of Civil Affairs, Party Conduct Office, NDRC and other departments have all conducted research in the economic management department. Niu Youchang, the member of Municipal Standing Committee, read through "Beijing foreign-funded Monitoring Platform in Rural Areas", and after the demonstration system, he said: "unclear amount and unclear number is a short board in the rural work, but with this system I can rest assured." He summarized rural management tasks as making " four starts " , that is, start to operate assets; start to transfer lands; start to configure resources; start to organize rural population. Xia Zhanyi, the Municipal Vice Mayor, clearly stated that "perform duties according to the law, serve the overall situation; love and respect the career; work as a good housekeeper" as the guiding ideology.

LOGO

- Through information management development in rural areas, we provide advanced platform for personnel working with rural affairs, carry out socio economic affairs management through two systems at city , county , town , and village levels, standardize work processes and improve the accuracy of grass roots data, reduce the labor intensity of rural cadres and improve the work quality.

3.5 To strengthen the service function of rural economic management department in support of scientific decision making of the government

- In the "foreign-funded platform" in Beijing, there are statistics from 2004 to 2012 concerning over 300 million members participating in rural collective economic organizations, more than 180 million rural labor force, 1.1 million peasant families, their production and income, and more than 100 million copies with the basic information of rural land contracts, as well as the income, expenses and balance sheets of the six levels, tertiary industry, and ten top industries. The total amount reaches 3 billion items and 60GB. Through this system can we search on an annual basis the data of the whole city, of every county, every town, every village, every enterprise, every rural family, every farmer and every contract. All levels of economic administration departments, through the "foreign-funded platform", can process a large amount of basic information, and provide accurate, complete and timely data for various departments at all levels of management, and thus provide effective service for the municipal government, municipal commission, department of research and other functions, of research departments, Outskirts and counties, the township government in decision making, rural economy research, et al, and has been highly appraised by the users.

- The application of modern information technology, from hardware construction to software management, has greatly improved the environmental conditions of small rural towns, enhanced the technical content. Advanced computer and network has narrowed the urban rural locational discrepancy; modern information processing technology has narrowed the urban rural differences in management mode; deeper application of information technology has narrowed the urban rural differences on the quality of personnel. All in all, the information management construction has played a positive role in promoting the unified urban rural planning, narrowing urban rural gap and accelerating urbanization and modernization.

IV Problems and Suggestions

First, the personnel are still of low quality, low stability and poor organizing safeguard mechanisms, thus it is needed to establish a sound management mechanism, and strengthen the team building of information management in rural grassroots.

Second, the intellectualization and humanization of rural information management system still can not fully meet the management of outskirts and rural areas now, thus it is needed to further top level design and gradual improvement, and expand its functions.

Third, the safeguard mechanism, the operation and maintenance of rural information management system is still lack of stability, thus it is needed to establish an information technology investment protection and long term operation with maintenance mechanism.

Fourth, the application of information technology in managing social and economic affairs are still unevenly leveled, thus it is needed to take more efforts in expanding the application range.

V. Some Understandings

First, updating the concept of thinking, unifying their thinking, and establishing a high quality workforce is the basic premise of improving information management construction in rural areas.

Second, multi-channel financing and ensuring the actual investment is the basic guarantee to ensure information management construction in rural areas.

Third, the integration of information resources and the sharing of resources is the basic principles to improve information management construction in rural areas.

Fourth, the insistence of scientific development concept, constant enrichment of the content and function of management system in accordance with the thinking of the times is the basic requirement to improve the management of information technology in rural areas of basic requirements.

Thank You !

Jan. 22, 2014