

## Review of Institutional Capacities in Policy/Programme Formulation for Agricultural Development

### Types of Institution for Policy/Programme Formulation

Based on authority, nature, and organisational structure, public institutions in Ningnan county can be classified into three categories.

#### *Statutory Institutions*

- Local party organisations, including the Party Committee of Ningnan County as well as its working departments; party committees of townships, towns, and state-owned enterprises; party branches at grassroots' level; and party groups established in government organs or mass organisations
- Local government power bodies including the People's Congress of Ningnan County and its Standing Committee, and people's congresses at the township level
- Local administrative management bodies, including the People's Government of Ningnan County and its functional sectors, and the people's governments of townships
- The People's Court of Ningnan County and the People's Procuratorate of Ningnan County
- Political consultative bodies, i.e., Political Consultative Conferences of Ningnan County and its Standing Committee

#### *Collective Organisations*

- Association for Science and Technology of Ningnan County as well as its specific member associations at county level, and member associations at county level

- Women's Union of Ningnan County and women's union at township or enterprise levels

- Labour Union of Ningnan County

- Communist Youth League Committee of Ningnan County

#### *Self-determined Organisations at Grassroots' Level*

- Villagers' Committees at the administrative village level and Villagers' Groups at the natural-village level (sub-village).

#### **Statutory Bodies and Functions**

##### *Statutory Bodies at County Level*

County-level power organs of the Government in Ningnan county are as follows.

- The Party Committee of Ningnan County
- The People's Government of Ningnan County
- The Standing Committee of the People's Congress of Ningnan County
- The Political Consultative Conference of Ningnan County
- The People's Court of Ningnan County
- The People's Procuratorate of Ningnan County

The first three power organs are related to economic policy formulation and socioeconomic management of the county. They are the key organs that determine the development of the county in general.

Party Committee of Ningnan County. The committee has one secretary, three vice-secretaries, and four members. It has 16 working branches, e.g., office, administrative branch, organisational branch, and so on. Its responsibilities are:

- to formulate the economic policy and development strategy of the county in accordance with the general and specific policy of the Chinese Party;
- to organise and implement economic reforms, important projects, and other vital issues in the county, together with the county government; and
- to implement the party policy towards intellectuals and promote and recommend agro-technicians and intellectuals to the government leader group.

People's Government of Ningnan County. The current government consists of a governor and five vice-governors as the core members in charge of essential affairs. It has about 50 functional organs which cover the following aspects: agriculture, industry, science and technology, business and trade, infrastructure, culture and education, communications,

family planning, public health, civil affairs, nationality affairs, public security, judicial administration, and rural development. Its functions and authorities are:

- to organise and carry out development plans issued by the County People's Congress; to manage economic construction, civil administration, sociocultural and other affairs; and to maintain a stable society and policy;
- to stipulate administrative measures and guide its working sectors and township level governments in working efficiently;
- to lead key projects such as the soil conservation project, large-scale water conservation project, and agro-technology demonstration project; and
- to protect the property of the public/state, collective, and private organisations and to support self-determined rural collective organisations.

Under the leadership of the county governors, each functional organ of the county government is responsible for specific affairs. The general division of responsibility is as follows: agriculture-related sectors are responsible for the guidance of production technology; commerce and supply/marketing sectors are responsible for supplementing production materials and selling products; and integrated, financial sectors and banks are responsible for supporting economic construction in the labour, finance, and other sectors. The government sectors in-charge of agricultural affairs are given below.

Committee for Rural Economy. This is composed of one director, two vice-directors, and four staff members. Its responsibilities are to assist the governors to coordinate the sectors of agriculture, forestry, animal husbandry, hydropower and electricity, land management, and meteorology and to inspect/supervise and encourage work in the above sectors.

Department of Agriculture. This has an office and seven extension service stations, i.e., a crop variety station, a plant protection station, a soil and fertiliser station, a silkworm and mulberry station, a diversified economy station, a management and administration station, and an agro-technique station.

Its major responsibilities are to formulate the annual and general plans relating to crop growth and development; to introduce, demonstrate, and expand improved crop varieties; to survey, predict, and control crop insects; to extend agro-techniques and to give farmers technical guidance in crop management, land improvement, and rational use of fertilisers.

Forestry Department. This includes several offices and branches, i.e., the management office, financial affairs' office, forest fire protection office, afforestation branch, economic forest branch, and the forestry administration branch.

It is authorised to plan and design afforestation and economic forest development plans; collect forest varieties and raise tree seedlings; monitor afforested areas; provide technical training and guidance in afforestation; and to manage and protect forests.

Animal Husbandry Department. This department has one office and three extension service stations, i.e., a livestock and poultry improving station, a forage station, and a veterinary station.

Its responsibilities are epidemic prevention and quarantine of livestock; quarantine of livestock products in the markets; expansion and training of veterinary and livestock-raising techniques; livestock improvement and introduction of new varieties; and guidance in production and rational use of forage grass and fodder.

Water Conservation and Electricity Department. The specified branches of this department are the water conservation branch, the aquatic products' branch, the agropower branch, the survey and design team, and the hydropower plant.

Its responsibilities are: management of irrigation facilities and hydropower stations; formulation of regulations for use and management of irrigation facilities; survey and design of reservoirs and hydropower stations; natural hazard prevention; harnessing of aquatic weeds; and survey of drinking water for both people and livestock.

Land Management Department. This department consists of five specified branches, a sectoral office, a land division branch, a land inspection branch, a financial office, and an archives' office.

Its responsibilities are land resource survey and planning; development of wastelands; estate management; and examination and approval of land required for housing by the rural people.

Planning Committee. The responsibilities of this committee are to formulate the annual and mid- to long-term socioeconomic development plans of the county; to report on the progress or problems of the plan to the County Government; to assist the county governors to adjust and control the county economy at macro-level; to examine and approve projects requiring county investment; to assign plans for production; to oversee circulation (of material and commodities); and to supervise labour and capital constructions in the relevant sectors and supervise their execution.

Committee of Science and Technology. The responsibilities of this committee are to guide the execution of science and technology-based agricultural demonstration projects at both county and township levels and to arrange and coordinate research and experimental projects launched by research institutions or organisations from outside.

Rural Energy Office. The responsibilities of the rural energy office are to further improve methane-generating pits and fuel-saving cooking stoves, as well as to provide guidance in their proper use and to introduce and expand solar energy projects.

Two Funds' Office. Two funds, i.e., development and exploitation funds are specified national funds for supporting economic construction and sociocultural development in minority, remote, and poor areas.

The Ningnan Two Funds' Office is responsible for the application and distribution of funds; examination and approval of the assisted projects; making contracts with the projects'

executing organisations and inspecting the financial budget; and management of the records of projects invested in.

Besides government sectors directly dealing with mountain agricultural activities, several non-standing working organs that are led directly by the county governors and secretaries of the Party Committee have been established to handle particular problems, resolve the gaps, and enhance the linkages among different specified sectors. Such organs are discussed below.

Office of Water and Soil Conservation. With a vice-governor as the head, a deputy-secretary as the vice-head, and directors of related government sectors as members, this office mainly deals with soil erosion control, expansion of improved sustainable agricultural technologies, and with organising and introducing related projects. The office plays an important role in effective implementation of soil conservation projects. The obvious increase in vegetation cover and progress in soil erosion control are proof of its effectiveness.

Office of Integrated Agricultural Development. Led by a vice-governor, this office is responsible for arranging and managing state-supported integrated agricultural projects dealing with the integrated use of land resources, multi-layer inter-cropping, expansion of sustainable farming technologies; and integrated manufacture of agro-products.

The Leading Group of Science and Technology. Established in 1991, this group has a county governor, a vice-governor, and a deputy-secretary as group leaders, and 10 directors from the Committee/ Association for Science and Technology, agriculture-related sectors, and sectors of education and financial affairs are group members. The leading group plays a major role in promoting development and in enhancing the role of science and technology in agriculture and socioeconomic development.

In addition, several government organs under the People's Government of the county, which are indirectly involved in policy/programme formulation for agriculture, are listed below.

- Economic Committee
- Foodgrain Management Department
- Tobacco Production Office
- Sugar Production Office
- Labour Management Department
- Personnel Department
- Industry and Commerce Department
- Township/Town Enterprise Management Department
- Goods and Materials' Department
- Commercial Department
- Supply and Marketing Cooperatives
- Commodity Price Management Department
- Tax Affairs' Department
- Educational Department
- Broadcasting Affairs' Management Department
- Birth Control Committee

- Public Health Department
- Patriotic Health Committee
- Medicine Management Department
- Post and Telecommunications' Office
- Transportation Management Department
- Financial Affairs' Department
- Ningnan County Branch of China Agricultural Bank
- Ningnan County Branch of China Construction Bank
- Meteorology Department
- Earthquake Department
- Statistics Department
- Nationality Affairs' Committee
- Civil Administration Department

### **Standing Committee of the Ningnan People's Congress**

The present Standing Committee, consisting of one director and four deputy directors, has six working branches, i.e., office, liaison branch, legal branch, secretarial branch, committee of financial and economic affairs, and committee of agriculture and industry. Its work is discussed below.

#### *Supervision*

The tasks of the Standing Committee are to listen periodically to the work reports given by the government, court, and the procuratorate; to address enquiries to the executive organs; to supervise implementation and execution of laws and regulations that are closely related to county life; to supervise the leaders and receive their report.

#### *Decision-making*

The Standing Committee also examines and approves the economic development plan and the financial budget; makes decisions pertaining to the overall economic development of Ningnan county; and appoints or removes government leaders (officers). Since 1990, the present People's Congress has appointed 74 leaders (officers) through legal (proper administrative) procedures.

#### *Receiving and Disseminating Information*

The Standing Committee reports on the problems communicated by the people to the related organs and encourages them to solve the problems as soon as possible.

### **Statutory Bodies at Township Level**

#### *Party Committees*

Party Committees normally have two or three leaders, one secretary, and one or two deputy secretaries. They are responsible for overall leadership in their administrative area under the leadership of the County Party Committee.

## *People's Governments*

The people's governments are responsible for the arrangement and leadership of agricultural production and for executing the production tasks and projects assigned by the County Government. The personnel in the government normally include a governor, a scientific and technical vice-governor, and several assistants responsible for tax collection, public security, promotion of birth control, agrotechniques, forestry, silkworm and mulberry cultivation, plant protection, land management, water and electricity, tobacco cultivation, etc.

## *People's Congresses*

The people's congresses exercise power through conferences. Currently, their activities are merely to appoint and remove government leaders (administrators) through legal means (administrative norms).

## **Collective Bodies and Functions**

### *The Ningnan County Association for Science and Technology*

The Science and Technology Association has 19 county-level special associations with 2,454 members and 24 township-level member associations with 1,993 members. Important member associations are the Ningnan Agricultural Association, the Ningnan Education Association, the Ningnan Abacus-reckoning Association, the Ningnan Medicine Association, the Ningnan Commerce and Economic Association, the Ningnan Joint Silk Factory Association, the Ningnan Sugarcane Research Association, the Ningnan Tung Tree Research Association, the Ningnan Silkworm and Mulberry Research Association, the Ningnan Banana Research Association, the Ningnan Citrus Research Association, etc.

The Ningnan Science and Technology Association is funded partly by the County Government. Most member associations normally receive no funding from the government and support themselves by supplying paid services to farmers. A few associations, however, have received some funds from related functional sectors of the government

The association's main work is to carry out agro-technological training and popularise general scientific knowledge, e.g., rearing of silkworm insects, household economics, tobacco production techniques, training in improved pig-raising, propaganda (extension) materials, photograph displays, etc.

Other important work includes organising research activities. Association members write papers or summaries on production practices and techniques, some of which have had very good effects on the economy.

### *Ningnan Women's Association*

The Women's Association is a county government-supported women's collective organisation. Its major responsibilities are to protect the rights of women and children, help women to learn to read and write, assist the Ningnan Birth Control Office, and encourage and organise the rural women in participatory services, etc.

### *Villagers' Committees*

Villagers' committees are a grassroots' based, self-determined organisations, according to the Chinese law governing their establishment. But actually, they are responsible for a lot of administrative work assigned by township governments. Members of each committee include a chairman, a vice-chairman, and several members. They are directly elected by the villagers for a term of three years.

The specific work of the committee includes formulating and executing village rules; assisting the village party branch to implement the general policy of the party; helping maintain village order; organising villagers to construct public welfare facilities; implementing production tasks assigned by the government at township-level; mediating in civil disputes; and conveying villagers' opinions and demands to and making suggestions to the People's Government.

### **Linkage of Different Institutions**

#### *Relationships among the 'Six Major Institutions' of Ningnan County*

- The Ningnan County Party Committee plays a dominant role in the all-round political leadership of the county. It submits recommendations for party leaders of five other major institutions (except for the leaders of the political consultative conference) to the County People's Congress for approval.
- The County People's Congress, together with its Standing Committee is the decision-making body in the county. It has the power to make decisions regarding vital problems relevant to the overall situation of the county.
- The Ningnan People's Government, the People's Court, and the People's Procuratorate are independent and are the executive bodies of the People's Congress.
- The Ningnan County Political Consultative Conference is an advisory body that gives suggestions to the Party Committee and the County Government and takes part in discussions relating to the major problems in the county.

#### *Relationship among Leading Party Bodies at Different Levels*

Township-level party committees, party groups from other institutions, and the administrative sectors are all under the leadership of the County Party Committee. They are responsible for the implementation of the County Party Committee's decisions. Village party branches are subject to the leadership of their corresponding party committees at the township level. In general, the linkage can be conceptualised from the following three levels.

- First Level : Party Committee of Ningnan County
- Second Level : Party committees of townships, nationality townships, towns, and enterprises; and party groups
- Third Level : Party branches of villages and others

### *Relationship between the People's Congresses of County and Townships/ Towns*

The relationship is purely on the basis of work. The County People's Congress guides the work of the township level people's congress and has the power to alter or annul inappropriate decisions made by the people's congress at township level.

### *Relationship among Administrative Bodies at Different Levels*

Governments of townships/towns follow the administrative lead of the County Government. Functional sectors having cooperative linkages among them are all under the leadership or working guidance of both the Ningnan county government and higher specified organs responsible for the same areas. A Village Committee carries out its work under the guidance of its township/town government. A Village Group is directly under its Village Committee. Government management is based on the leading cadre responsibility system in which governors (county or township, town) and officers (functional sectors) can make decisions within the limits of their functions and powers. On the basis of actual administrative linkages, the following four levels can be identified.

- First level : People's Government of Ningnan County
- Second level : People's governments at township level
- Third level : Village committees at administrative village level
- Fourth level : Village groups at grassroots' village level

In addition, an inner hierarchical structure of the county government, as shown in Table 3, can be found.

**Table 3: Hierarchical Structure of Ningnan County Government**

Level	Organ	Authority/Responsibility	Decision-makers/Responsible Person
I	County Government	General and essential affairs	Governors
II	Working Committees, Offices, Departments	Production directorate, specified administrative affairs management, executing decisions of the Government	Directors, Officers
III	Services, Extension Stations, Branches	Production and agro-technology service, concrete affairs	Branch Chiefs, Station Heads

During the 1960s and 1970s, the government strictly dominated the production system, and lower level governments had almost no choices. They had to organise production according to the detailed and complicated plans dictated by higher authorities. After 1978, and especially after the household responsibility system was adopted in 1980, the government-controlled economy became more relaxed. Lower-level governments and farmers attained the right to self-determination (see below).

- County government-controlled production items have decreased substantially. Up to now, the remaining items under county control are important crops such as rice, wheat, sugarcane, and tobacco, and the area sown with these crops and the total production per township/town are determined by the County Government; soil

conservation work about which the County Government annually informs each township level government of responsibilities; agro-materials, e.g., petrol, diesel oil, kerosene, and fertilisers are managed by the County Government according to annual plans; cutting down forests and the allotment of land for housing/construction are strictly controlled and must be approved by the relevant sectors of the Government. Apart from the above-mentioned items, farmers can freely grow any crop and engage in any other form of production if they can meet the production quota.

- The responsibility contract has become the major path linking the County Government to township-level governments. The major responsibilities of the County Government are to supervise the implementation of contracts and give rewards and punishment according to the contracts. Items listed in the contracts commonly include the annual output values of agriculture; annual amounts and storage of grain, pigs and products, and tobacco and sugarcane; forest protection and fire prevention; birth control, public security; etc.

### **Performance of Policy/Programme Formulation Institutions**

Any policy/programme requires the effective involvement of institutions on a participatory basis. Whether development projects can or cannot move towards the desired target depends largely on the preconditions of the institutional system.

#### *Preconditions for Institutional Change*

A review of the development processes of Ningnan county has identified four key factors as the basic preconditions for institutional change.

Political and Economic Environment. In China, national policies dominate the essential orientation of overall development. Any important policy is issued from the top and implemented through administrative channels. This means that the political background plays a decisive role in bringing about institutional change.

In many cases, the political environment is closely associated with the economic situation. The agricultural policies adopted during different periods serve as examples.

Before the 1960s, most of the Chinese population were living under difficult conditions, characterised mainly by shortage of food. During that time, the priority of the national development strategy was to enhance grain production. During the first half of the 1970s, the agricultural sector developed significantly. Grain production, in particular, increased continually and surpassed population growth by 1975.

This positive trend came to an end in 1976 - 1977; yields stagnated or even decreased slightly. Production per capita decreased by an annual average of 2.4 per cent between 1975 and 1977. This negative trend was not solely confined to grain production. China faced problems in agriculture as a whole, and the need for a new reform policy which could enhance agricultural output was realised. Rural reform started along with the political transformation.

Power and Rights of Institutions. Before 1976, most of the government institutions were not real policy/programme formulation organs but rather implementation bodies. This kind of system made institutional development passive.

With the introduction of the decentralisation process in 1976, local authorities/collectives became more powerful in terms of making decisions on the basis of local conditions and needs. This change helped arouse the enthusiasm of lower level institutions.

Knowledge and Capability of Institutions Dealing with Development. This refers to the structure of institutions, personnel in the institutions who are in charge of decision making and programme formulation, and the effectiveness of institutions. The success and failure stories observed in mountain areas of China proved that development patterns could be very different even in similar environmental conditions. Institutions that have better knowledge can fully use the given rights/power and contribute more to the improvement of the area.

Peoples' Adaptation. Experience has shown that government organisations did not function or were unable to function in the required effective and regular manner. This can be attributed to lack of linkages between state agencies and farmers. Without active adoption and the involvement of farmers, no agricultural development programme can be implemented.

More often than not, farmers' interest in agricultural participation is different from government planning. To realise farmers' strategies, understanding their conditions and needs is very important when formulating policies and programmes.

#### *Stages of Institutional Structural Changes*

Like other mountain areas in China, Ningnan county has undergone serious rural reforms and institutional, structural transformation. Reviewing its development history since 1950, Ningnan has had three distinct stages or periods of change, i.e., from 1949 - 1976, from 1976 - 1992, and from 1992 - to the present day.

The First Stage. The first stage started in 1950 when the area was liberated and ended in 1976 when the "cultural revolution" came to an end. During this period, Ningnan county experienced land reform, collectivisation, people's communes, and the cultural revolution. Along with the reforms, the institutional structure changed. Consequently, mountain agricultural development in Ningnan county, as in other mountain areas, was characterised by frequent changes of policy; a crop-dominated economy; a slow development process; and poverty.

**Frequent Change of Policies and Institutions.** During this stage, a series of rapid changes in rural reforms took place.

The first phase (1950-1952) is called "land reform" (in *Han* nationality residence areas). The major accomplishment of this reform was the redistribution of land ownership. Most people (80-90% of the rural population and farm labours) derived real economic benefits from the reform. This reform resulted in the creation of small family farms.

The development priority during this short period was to set up a political power/regime through the establishment of local authority institutions. The Party Committee, the People's Government, and the People's Court of Ningnan County were formed just after the liberation in March 1950, and, then, the functional government authorities were established. These were the Secretarial Office, Civil Administration Sector, Construction Sector, Taxation Sector, Financial Affairs' Sector, Foodgrain Sector, and Cultural/Education Sector. These government organs played a dominant role in the county's development. The key activities are listed below.

- a) Structuring of administrative divisions on the basis of a three-level system of political authority, i.e., county, sub-county (*Quo*), and township (*Xiang*). These are the local government units for implementing national policies.
- b) Helping farmers to restore productivity by giving agricultural credits on a low or non-interest basis and managing agricultural funds to support the construction of new irrigation facilities.
- c) Setting up county finance by standardising the tax system and enhancing the management of tax revenue.
- d) Providing guidance to farmers on productivity in accordance with local needs.

The period from 1953 to 1957 was accompanied by collective reforms (also called the three transformation reform), including the formation of collectives in agriculture, sideline activities, and business in the rural areas. In the mean time, "democratic reform" in the minority areas started in 1955. The key achievement of the reform was the transformation of private ownership into collective ownership. This reform was implemented in a national political environment in which China had embarked upon the construction of a planned socialist economy. This meant that the centralised institutional system became stronger.

In the farming sector, the production unit of this period changed very fast from the "mutual aid team" to the "preliminary collective", and, further, to the "advanced collective". From the very beginning, the production unit (mutual aid team) was very simple, even primitive, consisting of several farmers pooling their labour, animals, and implements to undertake agreed agricultural tasks. Under the preliminary collective system, the production unit became larger (normally 10-15 households), members of the collective retained the titles of their land, and they received an income which reflected not only the amount of labour they contributed but also the amount of land they owned. By 1957, most of the preliminary collectives grouped further into advanced collectives, mostly one to three collectives in one village (as well as in the minority areas). In this system, the productive activities were managed in a planned manner, and the members' income depended solely on the amount of work contributed, while their property titles were retained individually.

Compared to individual farm management, the collective production system had the following advantages.

- a) Public ownership of land and the production means adopted enabled collectives to plan land use and carry out the necessary capital construction on their farmland for its sustainable use. Collectives could adopt larger-scaled production through division of labour and the introduction of improved farming techniques.

- b) Through planned use of labour and equipment, it became easier to establish and enlarge the scale of rural industries.
- c) Owing to the income distribution patterns, more people, especially women, were brought into direct touch with agricultural production.

In sideline activities (e.g., handicraft and cottage industries) and business, individuals were grouped into collectives in accordance with the kind of work and administrative units. These collectives could run by themselves but had to share profits or losses among owners, as long as they followed the law and paid the tax quota. Later during this reform, many small collectives were grouped into larger ones.

Along with collective reforms, the government's political power was strengthened. This was characterised by the establishment of the county people's congress and the establishment of many functional departments under both the party committee and the county government. Meanwhile, township governments were reinforced as the key link between higher government authorities and farmers. Agricultural production in the county was managed in a planned manner under the supervision of government institutions. Development programmes at county or sub-county levels were organised by local authorities, while activities and implementation within collectives were planned by farmers, but approved by the sub-county or township government.

**In 1958**, when collectivisation had not stabilised, the "Great Leap Forward" began and in the following two years almost all forms of private property were abolished, and a system of payment according to need was introduced. The production unit was organised into very large communes in which unified management by command was adopted. Unfortunately, this bold exercise in irrational change of policy and institutional structure in production failed, and it caused grave damage to the rural economy of Ningnan. The development of Ningnan county was set back, for several years.

**By 1960**, recognising the impracticalities of the previous two years, the production units were split from communes to production teams (based on the village or a group of neighbouring residential sites), and the commune became the essential, lowest level government organ from 1960. From that time until 1976, the three-level rural production system (commune-brigade-production team) dominated. In the production team, farmers received income on a work-point basis (payment depending on the ability of the labour and the working days contributed). The brigade was responsible for making links between commune and production team and ran small-scaled industrial activities, as well as primary schools and rural medical clinics. The commune played a role in resource allocation and mobilisation of seasonal unemployed labourers for farm capital construction projects. By generating savings through commune activities, the commune-managed industries acquired higher investment and larger instruments. During that time, the private sector was carefully controlled; about five to seven per cent of land was allocated to households for private use. Although the size of private land was small, it was very important for ensuring farmers' livelihood. Farmers put sufficient input on their own land to produce vegetables, fruit, cash crops or cereal crops. However, we could conclude that the agro-production on private land became an attractive feature of the household economy to most farmers.

After a few years of agricultural production recovery in Ningnan county, the "wind" of the "cultural revolution" (1966-1976) blew strongly with a "Leftist" policy. Under this policy, agricultural development was forced into one-crop dominated production. Cereal crop production was treated as the major activity, while other activities such as cottage industries, sideline activities, transportation, business, etc were considered as "the tail of capitalism" which needed to be cut off. The diversified resources in mountain areas were, somehow, misused. For example, in order to have more cultivated land for planting grain, many forests were cut down and many pasturelands were destroyed. The consequence was that the ecological environment was damaged, and the newly reclaimed land did not increase crop output. As a matter of fact, in general, There was very little actual progress during the cultural revolution .

During this period government organs collapsed (1967--1974). Instead, the "Committee for Revolution and Production" (1967.1--1968.12), and the "Revolution Committee" replaced all political, administrative, and management roles of the former government authorities. This committee (normally formed by army officers, cadre, and representatives of the local people) had absolute rights in pushing agricultural production under planned (whether rational or not) designs. Except for a very small piece of land (called *Zi Liudi*) that normal households could manage by themselves, farmers were almost out of the policy/programme formulation process.

**Crop-dominated Economy and Slow Agricultural Development.** After long suffering from hunger, the development strategy was oriented towards crop production. This strategy was not wrong, but was over-stressed regardless of the diversified resources in the mountains. First, mountain lands, unlike the plains, are not suitable everywhere for crop production. Second, crop production is one but not the only subsector of agriculture. Without integration of varied resource use, crop production also could not improve as fast as it should have done. As a result, irrational use of land, e.g., sloping land cultivation, caused serious soil erosion and, in turn, degraded cropland owing to the degradation of supportland.

In Ningnan, before 1976, undue emphasis was given to grain production and no attention was paid to the all-round development of other sectors. This brought along many ill effects. Although crop production did increase this single dominating activity was not sustainable.

Because food production was given emphasis over all other activities, institutions related to crop farming had fundamental improvement. At the county level, the Department of Goods and Materials, the Department of Agro-machines, the Department of Agriculture, the Department of Forestry, the Department of Hydropower, the Office of Agricultural Production, and the Committee for Science and Technology were gradually established. These government organs were engaged in development programme formulation and implementation and allocation of development funds and controlled most of the major facilities for agriculture, as well as infrastructure.

From 1949-1976, the economy of Ningnan county, as a whole, developed very slowly (the output value of industry and agriculture grew at a rate of 4.8% per annum). By the year 1976, the output value of agriculture alone accounted for 81 per cent of the total and the average net income per capita was less than 100 *yuan*, below the poverty line of China

(net income per capita below 200 *yuan* means extreme poverty and net income per capita below 300 *yuan* means relative poverty). In general, mountain agriculture suffered not only from wrong policy direction, but also from poor institutional mechanisms.

Stage from 1977 to 1992. This stage started soon after the third plenary meeting of the thirteenth committee of the communist party when the new policies on rural economic development were issued. Ningnan county, as a representative of mountainous areas, revived through a rapid process of transformation during this period. This was mainly characterised by flexible policies; rapid development of agro-based industries; quick commercialisation; and poverty alleviation.

**Flexible Policies.** Since 1978, the authorities of Ningnan county have been influenced by the new trends occurring all over China and adopted several policies with the objective of effective rural economy development.

The significant policy adopted in the transformation period was the decentralisation of decision making in rural production through restructuring production units. The rural economy management system shifted from a work-contract responsibility system to an out-contract responsibility system and then to a household responsibility system. From 1982, the household responsibility system stabilised. This system is based on a contractual relationship which defines the rights and responsibilities of owners (state, collective, or private) and managers of assets. By 1983, among a wide variety of contractual forms, the farm household became the unit for agricultural production within a framework of collective ownership of land and major fixed assets.

In order to make farmers fully and willingly adopt the new policy, the county government declared the following.

- a) The policy of the household responsibility system would not change within the following decades.
- b) Land belonging to the private sector could be maintained for a period of 15 years.
- c) Long-term ownership of trees planted in degraded mountain areas could be maintained by those who had contributed to the planting.

Under the "responsibility system" households attained decision-making and management rights on negotiation rather than administrative orders. This gave an immediate incentive to farmers, with relative independence in agricultural participation. Although households are obliged to pay taxes, make contributions to collective welfare, provide a share in the state-public infrastructure, farmers are enthusiastic to generate more benefits from their contracted land through hard work and best use of their knowledge. Meanwhile because restrictions were released, a diversified rural economy flourished.

Because the roles of administrative bodies in economic management decreased, institutions at different levels also underwent restructuring. The People's Commune has been transferred to townships (*Xiang*), with its economic role confined to managing township enterprises and public affairs. The Brigade has been renamed 'back to the

After a few years of agricultural production recovery in Ningnan county, the 'village' (*Cun*), and has lost its managerial role to a great extent. Although a planned economy is still emphasised, the links between planning and practical implementation through institutional mechanisms are more or less ineffective. Institutional development is being restructured to meet the new needs of socioeconomic transformation.

With readjustment in the production structure, the shift in control over resources, from the collectives to individuals, has created new policy issues. Among them, price and market reform and reform encouraging investment on land for sustainable development became necessary.

Price reform started in 1979 when the agro-production price policy was readjusted. Under this policy, not only did the purchase price of agro-products increase, but a purchase pricing system, including a quota purchase price, over quota purchase price, negotiated price, and marketing price, was also established. The farmers after selling a certain amount of their products at quota prices (the amount depends on the contract agreement) to the state, sell the surplus at any price. Since then, rural markets became dynamic. Market goods sold in Ningnan county changed gradually from merely primary agro-products to processed products, or sideline products, and even to agricultural input materials. Rapid market development played a very important role in opening mountain areas to the outside. Enormous economic benefits could be gained by using the abundant resources and specific niche of local resources found in the mountains. With this economic stimulation, commercialised development in Ningnan progressed.

Market reform started in 1982 with the readjustment of marketing channels. For example, before 1982, farm sales of chemical fertilisers were carried out on the basis of local distribution network, mostly controlled by the state at provincially determined fixed prices. Fertilisers produced by county or lower level units were allocated locally under a state-recommended pricing system. This system is not beneficial to mountain areas when market imbalances and weaknesses in local productive capabilities exist. Under the new reform, the Government released control and permitted the markets to play a major role. In 1982, a two-channel market system was established. Besides receiving a certain quota from the Government, farmers could buy fertilisers on the free or open market but at a higher price of course. The development of markets provided more opportunities to farmers for both selling their products and buying goods and materials for production.

This reform appears to have triggered reform in the rural investment system as well. In the past, accumulation by collectives, together with investment in kind by collective labours, represented a major part of agricultural investment. But with the introduction of the responsibility system, investment largely depended upon individual farmers who are sometimes reluctant to make long-term, on-farm investments due to uncertainty about tenure arrangements or the permanence of reforms. Knowing this problem, the Ningnan government issued policies to guarantee long tenureship and to encourage private investment in production activities. In the meantime, the rural lending institutional system was restructured under government guidance.

To sum up, under the flexible policies, restructuring of institutions in accordance with economic needs was adopted. Government organs played a major role in policy-making, farmers achieved more rights in deciding their own production patterns, and development programmes were formulated based on both planners' and farmers' interests.

**Rapid Development of Agro-based Industries and Commercialisation.** Failures in the past taught the county government to set up a rational economic structure based on the local situation. With this consideration, a regional planning group, including leaders of government scientists from both inside and outside the county, as well as farmers, was formed in 1979. After three years of survey and analyses, development strategies were formulated in 1983 and confirmed in the proceeding years. Based on the work on "Agro-resources' Survey and Agro-regionalisation of Ningnan County, Sichuan Province", integrated development of agriculture and agro-based industries started. By 1990, besides grain production, which continued to be the basic component, sugar production, silk reeling production, tung oil production, and pig-raising became leading sectors in the county's economy (financial income of the government and taxation). The agro-based industries stabilised. Ningnan is not a county characterised merely by self-reliance but is also involved in large-scale commercialisation.

Compared to the first stage, the economy of Ningnan since 1976 has progressed rapidly. In 1990, the output value of agriculture and industry was double that of 1976; the average net income per capita reached 511 *yuan*; more than 99 per cent of the people were relieved from poverty; and the share of industry in terms of output value increased.

The Stage since 1992. From 1992 onwards, a "Socialist Marketing Economy" system has been adopted in China. Mountain agriculture in Ningnan county could not avoid this development trend. Problems facing this mountain area at present are discussed below.

- a) It would be natural to expect that the new trends provided incentives to accelerate agricultural growth, but this might have increased the inequality in income distribution. The rationale behind this expectation is that abilities and ambitions are unequally distributed among the population.
- b) The market economy is based on the ability and opportunity for competition. Because mountain areas are not on the same competing level as the plains' areas, the final results might not be beneficial to mountain areas.
- c) The market economy seeks quick returns and maximum profit and requires scaled/intensive production. But, the mountain environment is at a disadvantage in dealing with the above and, in turn, has less choices and even seems likely to lose out.

In view of the above, institutional restructuring to protect mountain resources and to bring about the sustainable development of mountain agriculture is required.

### *Impacts and Effectiveness*

In the last four decades, especially after rural reforms in 1976, the agriculture in Ningnan county and the living standards of the people improved a great deal. The production capability of both the county as a whole and of individual farmers became stronger and more sustainable. All these changes are closely related to the development process of institutional structures as well as its implementation mechanisms.

**Performance of Recent Institutions.** At present, the roles of government institutions in policy/programme formulation in Ningnan county mainly cover the issues discussed below.

**Readjustment of Policies in Accordance with the Actual Needs.** No policy is ever perfect; even when it is perfectly adapted to the circumstances that prompted it, circumstances change and more effective alternative policies have to be formulated. Under the current social system, government organs are responsible for policy readjustment. Unlike in the period before 1976, the county government became the basic unit for decision-making and programme formulation. This ensured local development based on local needs.

**Monitoring Policy and Programme Adaptation.** Ningnan county adopted a monitoring system for effective implementation of policies and programmes through contracts signed between government leaders and townships/villages. These leaders should be responsible for introducing the policy/programme initiatives among the farmers and need to work in the countryside for some time. On the one hand, orders from higher authorities are carried out and, on the other, farmers' interests and needs are considered for further improvement of policies/programmes.

**Government Intervention through Financial Resource Allocation.** Under the current system, the government authority is still the most powerful organ and controls most of the financial resources for local development. These financial resources either come directly from government organs or from taxation. Government institutions can develop programmes such as building irrigation systems, constructing roads, supporting land management, providing agricultural inputs, and providing low interest credit and can absorb farmers in these activities. In this way, farmers can earn income through labour inputs in the short run and benefits from production in the long run.

**Formulating Regulations Concerning Local Profits.** In recent years, agro-based industries have grown very fast but are still very much behind in competing with outside markets. Experience has shown that lack of regulations has led to ignorance of mountain niche in terms of their development. Silk reeling, sugar plantation and tobacco production have developed as the key agro-industrial sectors of Ningnan county since 1976. Owing to their high quality, many outsiders come to Ningnan to buy the raw products at relatively higher prices. This aspect was not handled well in the early 1980s, and the county's rural firms suffered. In 1984, the Ningnan Government issued a local law or regulation prohibiting the sale of silkworm cocoons, sugarcane, and raw tobacco outside the county. This regulation was not appreciated by farmers in the beginning but became acceptable once the purchasing price increased, because of value added, and county firms developed rapidly.

**Managing Agricultural Production according to Planned Goals.** After 1978, the Ningnan Government realised the constraints of mono-structured agricultural development. After an intensive survey of resources by different levels of leaders and scientists, the government decided to restructure the production system based on local situations. The points listed below were set up as strategic targets.

- a) Agricultural resources are the fundamental source of the county's economy and foodgrain makes it self-reliant. Multiple activities based on agriculture should be encouraged.

- b) Sugarcane, mulberries, and tung oil tree are promising cash crops and pig raising has big potentials. The county's economy should be based on these four components. In addition, activities such as tobacco production, subtropical fruit production, agro-product processing, economic trees, and animal husbandry should be given due aid and emphasis.
- c) The county should move from a "natural economy" to a "commercialised economy." By doing so, agro-based industries were develop faster. Through this mechanism, the advantages of resources could be harnessed to compete with large-scale commodity markets.
- d) Although the "Responsibility System" prevails, the management of development should be based on the overall country planning and follow the guidelines of development strategies.
- e) For sustainable development, while emphasising economic benefits, ecological impacts should be evaluated and the environmental condition properly protected and conserved for coming generations.

With the help of planning, the roles of different institutions should be gradually clarified and stabilised.

With regards to collective institutions, rights over decision-making and programme formulation have been broadened. These institution mainly play roles regarding:

- management of drainage/irrigation, pest control, rural transportation at village level;
- services with payment but not profit oriented;
- specific support services in relation to seed supplies, technique extension, information exchange, and management technology, mostly at township level; and
- financial aid among farmers for daily commodities, purchase/procurement, processing, selling, investment for small projects, insurance, etc, mostly at village and township levels.

**Impacts of the Institutional Changes.** We can conclude that the regional planning drafted in 1983 is rational because it gives answers to (1) what the development priorities are? (2) where the places for various sectoral developments are? (3) when the priorities will be implemented? (4) how to achieve integrated development? and (5) who plays what role in the development process?

Since 1976, the economy of Ningnan county has made great progress. Within the ten years from 1980 to 1990, the output value of agriculture and industry doubled; the average income per capita increased from 108 *yuan* to 511 *yuan*; a majority of the rural population were relieved from poverty; the leading sectors have been stabilised; agro-

products that were marketed outside attained a commercial ratio of more than 50 per cent; and the basic construction for development improved, ensuring further development.

The readjusted production structure of agriculture helped develop a commercialised economy. In accordance with mountain environmental conditions, a diversified land-use pattern and agro-production bases were gradually established. Economic plant cultivation increasingly contributed to both economic growth and ecological conservation.

**Effectiveness of institutions.** Reviewing the present policy/programme-implementing approaches, the mechanism discussed below seems to be effective.

The contracting mechanism enabled the management effective. Since 1976, many projects have developed under the economic planning of the county; some of the projects need close cooperation from different departments and different levels of participation. A newly structured institutional management system has been established and gradually improved since 1980. Under this, the county governments are the coordinators of integrated development programmes and the county governors, along with related leaders, are responsible for identifying institutions to participate in the projects. Before the project starts, the project proposal has to be discussed with the participating institutions. Once the project is approved by the people's committee of the county, works of the project (conditions of the contract, including leadership, works to be achieved, budget, period, and quality of work) are contracted to related institutions. During and after the project, monitoring and inspections by county readers are frequently carried out and an award/punishment system is implemented. Experience proves that, on the one hand, the contracting mechanism results in the effectiveness of development projects and, on the other hand, the contracted project examines the ability of leaders in different institutions and at different levels. Those who have performed well and made the project work more effectively continue further, otherwise the position is given to others. As a matter of fact, the contracting mechanism in management has led to rapid development and facilitated "bold change" in the membership and leadership of institutions.

The second measure is to rely on the local scientific/technological force and to develop programmes that match the mountain environment and local background. To make the local scientific/technological force steady, the county government formed a multi-disciplinary leading group, coordinated by the governor; improved the living conditions and working conditions of scientists/technicians; implemented the award system to encourage intellectuals working in development programmes; and sent people outside for further education. Up to 1990, there were 105 persons who had studied in colleges or mid-level schools outside and had working experience in Ningnan. Also, 74 intellectuals are being selected to take leadership positions at county or department level, and 142 intellectuals are being promoted as sub-county leaders or enterprise leaders. With the reinforcement of local science and technology, more and more programmes dealing with specific local constraints have been developed and carried out.

To overcome the constraints, Ningnan county has adopted a two-way programme implementation approach. First, from high-level to low-level, i.e., developing programmes on county or sub-county scales in accordance with regional planning and getting

production groups or households to implement them. Second, from ground-level to top level, i.e., formulating programmes (including demonstrations) based on the interests of farmers and existing farmers' cooperative activities, and giving aid to them.

A few years after the adoption of the "Responsibility System", farmers realised the weaknesses of household capabilities and the shortcomings of poor techniques. To achieve certain targets of common interest, some farmers (households) collectively contributed funds to improve production technology. This spontaneous act was a sign that a positive attitude towards science/technology was developing. Knowing this the Ningnan government first encouraged this kind of collectivisation by giving some support in the form of both manpower and funds and then popularised and increased farmer-based activities. All 24 sub-counties in Ningnan now have science/technology associations and rural collective foundations. Many specific associations dealing with vegetable, sugarcane, and fruit planting; mulberry and silkworm raising; rural energy; silk reeling, etc have been the centres of information, experience exchange, and local training.

It is clear that there are some constraints which still make the institutions ineffective. These are discussed below.

- Since present production units are based on households, regional development (concerned with environment, long-term strategies) is not the priority for peasants. A certain gap in linkages between development institutions and farmers has emerged.
- Institutions in the remote mountain areas have little experience in competitive marketing. Mountain agriculture is not at the same starting point as that of the plains in a newly-adapted "socialist marketing economy". Both knowledge and management techniques of mountain institutions need to be improved.
- While mountain agriculture improved, education was ignored. Education is essential if the people involved in policy/programme formulation institutions are to devise a suitable local development programme and effectively implement it. Many past failures resulted not from the lack of goodwill or hard work, but from the lack of proper technical understanding of the prerequisites of development. Only with improvement in people's knowledge can the operational system be effective.

### **Gaps and Potentials**

Introduced in 1992, market-oriented economic reform has quickly spread all over China. To match the county economy to this new situation, the Party Committee and the Ningnan County Government have a lot to do. It is well recognised that a critical look at the institutional structure under the new development process is necessary.

### **Major Strengths and Weaknesses**

Analysing the economic situation and institutional environment of Ningnan county, it was found that the weaknesses discussed below need to be overcome.

- Prices of food crops, oils, and sideline agro-products are no longer under government control. Apart from a small portion that has to be sold to the state, farmers can sell their produce in markets at market prices. Most enterprises can determine the prices of their raw materials and products. This decentralisation of the economy requires a readjustment of the institutional structure.
- The dissemination channels for agro-technology need to be improved and enhanced. County and township-based, agro-technology expanding networks have been established, but the fact that the limited number of agro-technicians are almost all concentrated in county government organs makes it difficult to implement agro-technology because of the lack of qualified, experienced personnel at township and village levels on one hand and the shortage of transportation on the other.
- A county government that is structured according to the management needs of a planned economy system is not suitable for a market economy. Problems such as overstaffing; fragmented, operational responsibility; inflexibility; and low abilities in market analysis and prediction are obstacles to the efficiency of the County Government. Lack of linkages to markets is another problem, and it is difficult for the Government to avoid making inappropriate or even wrong decisions. This can be illustrated by using sugar production as an example.

During the 1980s, sugar production fetched very good profits due to good sales and state subsidies for sugarcane plantation. Encouraged by this favourable situation, sugar production in Ningnan expanded a great deal. Up to the end of the 1980s, the sugarcane processing capacity of three sugar factories in Ningnan totalled 2,500 tonnes per day, which was two times more than the amount processed in the 1970s. To maintain this production capacity, an annual amount of 230 to 250 thousand tonnes is needed during the sugarcane processing season. Because it is difficult to get sugarcane from the neighbouring counties, Ningnan county must maintain around 50,000 *mu* of farmland to grow sugarcane in order to supply the required amount. Owing to the limited available farmland, sugarcane cultivation has been in serious conflict with food crop cultivation. This has also limited the development of oil-bearing plants and other cash crops.

Income from growing sugarcane was much lower than that from producing foodgrain and other cash crops. But once the state reduced (partly in 1991 and transferred completely in 1992) the foodgrain-subsidy to sugarcane production, the farmer's enthusiasm for growing sugarcane augmented and sugarcane cultivation was actually encouraged by the County Government. However, later, a substantial reduction in the profits and a serious deficit in the factories of Ningnan county occurred. This was because the sale of white sugar decreased and the price dropped in 1992. The factories had to decrease the purchasing price in 1993, further reducing the income of sugarcane-producing farmers. In the forthcoming years, sugarcane and sugar estates will be in serious deficit in Ningnan county.

- Although the number of collective institutions has grown very fast, their role in decision-making and programme formulation is still weak because of a lack of financial resources. In addition, due to slow transformation of information, these collective organs have a limited impact on scaled economic development.

In keeping with the market economy system, Ningnan county recently adopted some new approaches.

- After the adoption of the contract responsibility system in the county, government control on agricultural activities was greatly relaxed, while government role in directing, regulating, and controlling the socioeconomy at macro-level has increased. Parallel to an improved responsibility system, i.e., the two-level contract responsibility system which is expanding in rural areas, a "double-guarantee" (i.e., the state tax revenue and the basic income of enterprises are protected) contract responsibility system was adopted in industry, commerce, and trade estates in 1992. In the same year, nine enterprises made contracts with the County Government and had evident increases in the sale of products and tax profits.
- In order to develop agricultural and underground mineral resources, a most favourable policy (a major point is low tax revenue) for attracting investments, technology, and qualified personnel from outside the county was put forward this year. Meanwhile, the County Government has delimited 50 $\mu$  of land as a development area to absorb enterprises from outside the county and for the private sector to build factories or enterprises.

#### *Institutional Structure in Keeping with Mountain Specialities*

To conclude, there are several characteristic aspects in the institutional structure of the county.

- Both government organs and collective organs have vertical links. Administrative management systems serve as the key mechanism for connecting different levels of institutions.
- There exists a horizontal link among government institutions at different levels, especially in reference to institutions directly related to the affairs of the agricultural department.
- Government organs have relatively weak links in implementing development programmes, while government institutions play a more important role in decision-making and programme formulation.
- Overlaps exist among different types of government institutions. The overlapping institutions have uncertain and even conflicting responsibilities in agricultural development.
- The institutional structure is internal development oriented. There is no strong evidence showing close internal-external liaisons.
- The institutional structure is relatively suitable for policy/programme execution from higher level to lower level, rather than the vice-versa.

The major features of the current institutional structure and the measures/approaches adopted in keeping with mountain specificities are listed in Table 4.

**Table 4: Functions/Measures and Policy/Programme Formulation of the Current Institutional Structure in Keeping with Mountain Specificities**

Functions/measures	Mt. specificities				
	I	F	D	M	N
<b>• Functions</b>					
Readjustment of Policies	x	x		x	x
Formulation of development programmes			x		x
Monitoring the adoption of policies/programmes	x				
Intervention through allocation of financial resource		x		x	
Formulation of regulations for protecting local profit	x	x		x	
Planning		x	x		x
Collective management of production, public welfare	x	x	x	x	x
Providing financial aid	x	x	x	x	x
<b>• Key measures/approaches</b>					
Responsibility contract system for farming			x		x
Double-guarantee contract system for rural enterprises		x		x	
Absorbing outside inputs	x				x
<b>• Characteristics of the institutional structure</b>					
Vertical link	x		x		
Horizontal link		x		x	x
Links between kinds of institutions	x	x	x	x	x
Institutional overlapping	x	x	x	x	
Internal development oriented	x		x		x
Administrative command dominated	x	x		x	

Notes: I-inaccessibility, F-fragility, D-diversity, M-marginality, and N-niche

### *New Trends and Efforts for Readjustment*

The 14th Chinese Party Congress put forward the development strategy of a market-oriented economy in 1992, and the 8th Congress approved the formulation of the State Council along with which a general three-year reform plan for administrative organs is included. According to the State Council-formulated administrative reform directives of county governments, it should be "a small organ, but a big society". The emphasis of reform in Ningnan county should be on: 1) enhancing the function of government sectors responsible for readjusting and controlling economic development at macro-level, and being in charge of the management of sociocultural affairs and social inspection and supervision of policy implementation; 2) merging sectors with overlapping functions and transforming some economic specialty organs into section management departments, or economic entities, or service companies; 3) reducing personnel and simplifying the

structure of foundational sectors that must continue, e.g., the departments of agriculture and forestry; and 4) raising policy-making and policy/programme formulation abilities by improving the county government structure and knowledge level of officials. In implementing administrative reform, the aspects discussed below should be emphasised.

- To continue readjusting the purchasing prices of agro-products and sideline products in order to encourage farmers to sell their surplus to the government. Based on county conditions and the state policy, it is necessary to work out a specific policy to promote resource exploitation, protect focal crop production, and key agro-product-based enterprises. The production of sugarcane and sugar is essential to maintain the county's financial budget. It is therefore essential to keep the sugarcane purchasing price at a promising level by adopting a favourable policy that promotes sugar production.
- To enhance the role of the county government in managing the external environment of enterprises and abolish individual management of enterprises by expanding and improving the "Double-guarantee" contract responsibility system so as to encourage the existing enterprises and business-trade companies to increase their economic efficiency and competitive ability.
- To take measures to improve circulation channels and enhance macro-level management and inspecting of agro-materials and chemical fertilisers so as to regulate prices.
- To enforce the management of tax revenue, apart from the state-issued tax items, any expenses apportioned and charged to farmers should be strictly prohibited so as to lighten the burden on the farmers.
- To enhance the management and rational use of public facilities such as irrigation and agro-power facilities.
- To reform the service and management system of agro-technology extension. Favourable measures should be adopted to encourage agro-technicians to work in village-level agricultural development projects. Establishing a science and technology fund to reward workers providing the greatest contributions to agricultural production could produce encouraging results.
- Foodgrain production and soil and water conservation should be emphasised continuously, and cutting down forests and approval of land for housing construction should be controlled strictly by the county government.

## Conclusions

A number of important issues that emerge from the review of institutional development in Ningnan county, which would be common to many other mountain areas, are briefly summed up below.

- Historic experience has shown that institutional development of mountain agriculture is always accompanied by reforms in policies and socioeconomic structures. National policies, and local policies aimed at development influence the pattern of institutional changes.
- Apart from policies, the economic environment, power and rights of institutions, knowledge and capability of institutions handling development, and people's adaptation mechanisms are the other key preconditions for assessing institutions.
- At present, the institutional structure in mountain agriculture has connections through vertical and horizontal government and collective institutional linkages, but these links and the role of the relationships differ from time to time and from place to place. The study indicates that government institutions play a dominant role in policy/programme formulation and collective institutions concerned more with small-scale development activities.
- The effectiveness of institutions does not depend on how well the different organs are organised but on what approaches/measures are adopted. With regards to Ningnan county, the major functions of government institutions are: 1). readjustment of policies in accordance with the actual needs, 2). monitoring the adaptation of policies and programmes, 3). government interventions through allocation of financial resources, 4). formulating regulations for protecting local profits, and 5). managing agricultural production in a planned manner.
- Overlapping, an internal development-oriented structure of institutions, and administrative command-dominated management approaches are the key constraints hampering the effectiveness of current development.
- Collective organisations are likely to be the most widely accepted form for agricultural production management.

Since 1992, a new policy known as a "socialist market economic reform" has led to a new conceptual understanding of development at varied levels and a rapid change in the economic pattern. Because the market economy is aimed at quick returns and maximum profit and requires relatively large-scale production, mountain agriculture faces a big challenge. This new trend has brought about no immediate response in Ningnan county, and it is making little readjustment to using institutional strengthening mechanisms. Consequently, although the government adopted methods, such as the "double level contract" and "absorbing investment", some established leading sectors of mountain agriculture suffered.

The development process in keeping with the new trends in the marketing economy should take mountain specificities into consideration. How to bring about transformation that encompasses mountain interests is still a question that needs careful study. However, after the review work in Ningnan county, we can conclude that the following efforts should be made.

- Promotion and development of collective institutions by giving them more flexible policies in reacting to the market economy.

- Enhancing the responsibility system among government institutions to improve the effectiveness of administrative mechanisms.
- Improving linkages between government institutions and collective institutions through coordination in development programmes.
- Combining measures between planning and monitoring in programme management by giving incentives to all those participating in and effectively implementing jobs.
- Developing training and awareness programmes at different institutional levels to improve the attitudes of people in the changing environment and to ameliorate the production pattern in accordance to local suitability.
- Creating conditions to meet the increasing finance/resources required for development.

Many institutions are involved in the agricultural research and development activities of Ningnan county. These institutions can be classified into four types: local, provincial, national, and international. Some of them focus on agricultural development (D) with management and coordination functions and others on agricultural research (R).

These institutions are listed below:

#### Local institutions

##### Development Institutions

- The Government of Ningnan County, Liangshan Yi Autonomous Prefecture, Sichuan Province
- Science and Technology Commission, Ningnan County
- Science and Technology Association, Ningnan County
- Education Department, Ningnan County
- Planning Commission, Ningnan County
- Agricultural Commission, Ningnan County
- Agricultural Bureau, Ningnan County
- Personnel Department, Ningnan County
- Sanitation Department, Ningnan County
- Finance Department, Ningnan County
- Economic Commission, Ningnan County
- Land Department, Ningnan County
- Hydroelectric Department, Ningnan County
- Women's Association, Ningnan County
- Agricultural Bank, Ningnan County
- Recticity Company, Ningnan County
- Tobacco Company, Ningnan County
- Silkweave Company, Ningnan County