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ACHIEVEMENTS IN PHYSICAL GEOGRAPHY IN THE LAST DECADE

[The following is a full translation of an article submitted by Huang Ping-wei and Kao Yung-yuan in Ti-li Chih-shih, (Geographic Knowledge), Peiping, No 10, 6 October 1959, pages 433-436.]

I. Physical Geography and Its Function

Physical geography is a branch of science devoted to the study, utilization and transformation of nature. To utilize and transform nature, we, of course, have to understand the rules in regard to the origin, development and distribution of nature. On the surface of the earth and in the space adjacent to the earth where the lithosphere, atmosphere and hydrosphere meet and mix with one another, nature which consists of such essential elements as topography, climate, ocean and seas, soil, plants and animals, is an intrinsically well-integrated entity.

To understand this intrinsically well-integrated entity calls for analysis as well as synthesis, separate studies of the origin, development and distribution of the different constituent elements as well as an over-all study of the origin, development and distribution of the whole entity.

While the separate study of different elements is the respective work of geomorphology, climatology, hydrography, soil geography, plant geography, animal geography, etc., the over-all study of nature as an entity is the work of comprehensive physical geography.

The characteristics, methods and scale of human effort to utilize and transform nature are determined by social

system and the pattern of production in the society's material life. In capitalist society, production is in an anarchic state and aims at making a maximum amount of profit.

For the sake of profit, it is inevitable for the capitalists to exhaustively exploit and wilfully damage the natural resources even to the extent of wanton destruction of the natural conditions essential to the long-term interest of the entire society. Even though there are some small-scale measures to improve nature, they are but local and accidental improvisations.

Under socialist system, utilization and transformation of nature are not for the sake of profit, but for the uninterrupted growth and perfection of socialism and socialist production to ensure the maximum satisfaction of the material and cultural demands for the growth of socialist economy. They are fundamentally different from those under capitalism in characteristics, scale and speed.

It is therefore necessary to have a comprehensive understanding and mastery of the objective laws existing in nature before we can fully utilize and transform nature step by step according to our plan. It is a foregone conclusion that only under socialism can physical geography, which seeks to understand and harness nature, manifest its proper function and undergo proper development.

II. Three Stages of Development in the Last Decade

Before the liberation, the reactionary rule hindered the development of productive force and science in our country. With little survey work, physical geography was not even equipped with the necessary conditions for its development. At that time, various kinds of imported capitalist geographic ideas predominated the field of geography, and many geographers regarded geography as a combination of physical geography and economic geography.

Such a wrong concept was one of the obstacles that prevented geography from proper development. Of all the branches of physical geography, only climatology, geomor-

phology and soil geography were given some attention by Chinese scholars a few years before the liberation.

Since the establishment of new China, an extremely broad avenue has been opened up for the development of physical geography by the flourishing national economic construction. In the last ten years, physical geography has gained stature and its development can be divided into the following three stages:

1. Period of the Revival of National Economy: Under the leadership of the Party, geography workers, like other intellectuals, went through thought reform and, from the viewpoint of dialectic materialism and historical materialism, criticized the direction of their work entirely divorced from reality and the reactionary theory that everything is determined by environment. They came to the correct understanding that geographic environment is but an external condition for social development and that nature is an intrinsically well-integrated entity.

During this period, the tasks of the geographers such as topographical surveys in coordination with water conservancy projects in East and North China and railway routing in Southwest and Northwest China and survey of the source of the Yellow River, were closely related to realistic projects.

2. Period of the First Five-Year Plan: During this period, the Chinese people under the leadership of the Party began to build their own country on a grand scale and proceeded to improve and utilize nature according to their own plans. Because of many geographic problems which demanded immediate solution, physical geography workers with a high zest actively took part in surveys designed for the development of the Yellow River, Hai River, Yangtze River, Han River, Hsiang River and Chu (Pearl) River valleys.

Of all these surveys, the comprehensive survey of soil and water conservation along the mid-section of the Yellow River took most of their effort. As a result of surveys of the resources of tropical plants and animals in South China, and surveys in Sinkiang Province, along the Amur River and in the northwestern deserts, the division of China's natural regions became a subject of sustained interest during this period, and the study of

physical geography thus became an indispensable constituent part of such an endeavor. All these helped promote the development of the different branches of physical geography.

Such fields as comprehensive physical geography, oceanography, land hydrography, plant geography and animal geography, which were barely touched by Chinese scholars before the liberation, went through rapid development. The reason for this rapid development was of course attributable to the practical demand of production, but, at the same time, our study of Soviet Union's advanced experience, and the selfless help given by Soviet scientists also played a significant role in raising the standard of geography as a science in China.

3. From 1958 to now: in the spring of 1958, as a result of the victory of the rectification and anti-rightist struggles, a great leap forward in industrial and agricultural production occurred throughout the country and extensive mass projects of harnessing and transforming nature such as those for water and soil conservation, swamp improvement, reform of farming system, building irrigation canals uphill and high crop yield, were successively reported one after another.

These achievements have not only enriched the contents of physical geography, but also inspired the creativeness of geography workers. The Party strengthened its concrete leadership in the field of scientific research and implemented the mass line in the same manner as in other work.

During this period, aside from continuing the unfinished surveys and research projects started in the previous period, the work of geography workers included an extensive study of the deserts in the six northwestern provinces with a view to improving the drought area in Northwestern China, a survey of ice and snow resources in the Chi-lien Mountain and the T'ien-shan Range, a comprehensive survey for channeling water from south to north in West China, a topographical survey of the middle and lower sections of the Yangtze River valley for the preparation of the Yangtze River development plan and a comprehensive survey of the Shih-wan-ta Shan for the development of botanical resources in South China.

In addition, geography workers have also started a topographical survey of the coast-line and the preparation of a large-size atlas. All these tasks were big in scale and done with the cooperation of specialists from many organizations.

In short, physical geography is now stronger after the elapse of ten year. Now all the geographic institutions in Peiping, Nanking, Canton, Cheng-chou, Sian, Chang-chung, Shih-chia-chuang and K'ai-feng, and the geography departments of more than 50 institutions of higher learning have organizations devoted to the study of physical geography.

Over the entire territory of our motherland with the Gobi Desert in the north and the tropical zone in the south, high up in the mountains up to 5,000 meters and down to the coastal plain, there are footprints of our physical geography workers who climb the mountains and wade the streams in an effort to explore the mystery of nature. They have built up a considerably formidable army. The main branches of physical geography which were entirely neglected before have now gradually become strong and will soon develop into a well-integrated system.

III. Main Achievements in the Decade

During the last ten years, geography workers, in thoroughly implementing the Party's policy of linking theory with practice in scientific research and coordinating their working program with national economic construction, have not only fulfilled their missions designated by the State but also brought about the development of various branches of physical geography in different degrees. Now let us review the achievements of the geography workers in their principal missions:

1. Improvement of the Yellow River: the Yellow River is a major waterway in our country which has caused more disaster than benefit. Countless human lives and property have been lost as a result of its frequent floods throughout the centuries. As soon as the people came into power, they began to harness this source of disaster.

Water and soil conservation on the loess plain along the middle section of the Yellow River is a matter of crucial importance in the "Comprehensive Plan for Fundamentally Harnessing and Developing Water Conservancy Along the Yellow River." In fact, water and soil conservation is not only the central task for harnessing the Yellow River but also a principal way to increase agricultural products along the Yellow River Valley.

The 1953-1958 comprehensive water and soil conservation survey along the middle section of the Yellow River was conducted in coordination with water and soil conservation projects. In those six years, the geography workers surveyed a vast area covering 350,000 square kilometers with the Fen River in the east, the T'ao River in the west, the Ch'ang Ling Mountain in the south and the Great Wall in the north; gathered much information data concerning physical geography; made a comprehensive analysis of the natural conditions that cause water and soil erosion and the effect of human activities upon nature; and correctly understood the causes, intensity and distribution of water and soil erosion; made a study of the possibilities of all preventive measures on the basis of related natural factors and their possible effects upon nature and social economy, and finally proposed comprehensive programs, steps and arrangements for water and soil conservation.

Owing to the fact that the study of the loess geomorphology is rather important in the comprehensive survey of water and soil conservation, the surveyors made detailed classification of topography by using big and medium scale topographical maps and quantitative analysis, analyzed the reason of expansion of the loess region, explained the process of formation of loess topography, and offered scientific basis for water and soil conservation and rational land utilization, thereby causing advancement in the study of geomorphology.

The "Comprehensive Technical and Economic Report on the Utilization of the Yellow River" is a blueprint for the thorough transformation of the Yellow River. In preparing this historically significant document, physical geography workers have also contributed their effort.

For this report, the climatologists collected and compiled a large amount of weather data and prepared a preci-

precipitation map along the Yellow River with detailed explanations on storm, shower, drought and special characteristics of precipitation along the river valley. They have also surveyed and located the real source of the Yellow River, and corrected the wrong traditional concept that the Yellow River is originated from Hsin-shu Hai. For this report they also made a map showing soil erosion in different regions along the river.

2. Development of water resources of the Yangtze River: the development of the water resources of the Yangtze River which can generate over 200 million kilowatts of electricity, together with other developments such as flood-prevention, irrigation and navigation, is a stupendous task and involves many complicated problems in physical geography which calls for study. In the last ten years, for the development of water conservancy along the Yangtze River, physical geography workers have done considerable survey work, mostly concerning topography.

The harnessing of the waters in the Yangtze Gorges is the central task of the development of the Yangtze River. The study of topographical conditions at the dam and reservoir sites is an important step before any design work. On the basis of topographical conditions, geomorphology workers made a comparison between two dam and reservoir sites and analyzed the advantages and disadvantages of various plans. The formation and history of the Yangtze Gorges are important problems in geomorphology.

On the basis of topographical survey and analysis of the land bordering the Gorges, we may infer that before the Gorges came into being, a peneplain was formed because of years of erosion and since then the peneplain had gone through several intermittent topographical uplifts. Because the uplift took the form of twists over a wide area, rather than dislocation accompanied by fracture, the earth's crust is rather stable.

How will the future reservoirs on the Yangtze Gorges affect the winding Ching River is a problem that calls for immediate solution. It was discovered that windings along the Ching River were developing around the end of the Ming Dynasty (about 1644), during the reign of Emperor Tao-kuang (1835-1876) of the Ch'ing Dynasty and during the present time because of increased quantity of water flow. After the

reservoirs are built in the Gorges less windings are expected to develop and control of the river will become easier.

Little was known about the Chin-sha River until 1957-1958 when a survey was made. The sudden curve of the river in the vicinity of Li-chiang and Shih-ku was formerly taken as the result of river capture, but it is found that river capture actually occurred below, not at, Shih-ku.

Comprehensive study of river estuaries is a new endeavor in geography work. In the last two years the study of the Yangtze estuary has gone through considerable progress. The study of the special characteristics of hydrography, the nature of silt movement, development of topography and new tectonic movements at the Yangtze estuary have attained some achievements which served as the scientific basis for suggestions to improve the navigation channel in the estuary.

In addition, geography workers have made a soil survey over an area totaling 189,000 square kilometers along the Yangtze River valley and prepared a soil map at the scale of 100,000 to 1. This map has not only met the need of preparing the plan for the development of the Yangtze River Valley, but also directly helped a part of the people's communes formulate their plan for soil improvement.

3. Transformation of the drought area in Northwest China: the drought area in the northwest of our country occupies about one-fifth of our total territory. The productivity there is very low and the drifting sand constitutes a constant menace to farms, factories, mines, inhabitants, and highway and railway communication. As economic construction in the northwest is forging ahead in a rapid pace, to prevent sand shifting is becoming an increasingly imperative demand. To change the appearance of the drought region in the Northwest and to transform deserts into oases is a great ideal of the vast number of the masses.

The Academia Sinica and its related organizations and institutions of higher learning have organized survey teams on a big scale to Sinkiang, Tsinghai, Western Kangsu, Inner Mongolia and the Gobi Desert for extensive survey. These teams have basically found the origin of loess silt, causes of sand storm, conditions of sand distribution and movement, and natural conditions of the Gobi Desert. Sand-fixing

experiments and research work in considerably large scale have been started, thus constituting a good beginning for sand control.

In dry and drought regions, water is decisively important. The study of hydrography is, therefore, very important. Actual surveys have been conducted along many rivers in Sinkiang and the Ho-hsi Corridor of Kansu Province. The quantity of water flow for each river was counted; the change of water flow in the rivers in relation to their sources was analyzed; and an extensive survey was also made of underground water.

Inside the dry and drought region and in its vicinity, there are many high mountains on which the accumulated snow and glacier are valuable sources of water supply. To explore the possibility of utilizing the ice and snow on high mountains, a big-scale survey has been made in the last two years to find the distribution and amount of glacier on a part of the Tien-shan Range and the whole of Chi-lien Mountain with a view to understanding the special characteristics of the accumulation and thawing of glaciers. The experience of the masses in melting snow and ice was also summed up.

Water is plentiful in the southwestern provinces of our country. If we can channel some water from the southwest to the dry and drought region in the northwest, it would be a great feat in transforming nature. This unprecedentedly stupendous engineering project cannot be started until we have a thorough understanding of the water channels and the related areas they traverse. For this purpose we have already started a comprehensive survey this year and collected a large amount of physical geography data which must be taken into consideration before making decisions on any water channeling project.

4. Development of tropical vegetation and animal resources in South China: the development of tropical vegetation and animal resources in South China is an important mission in socialist construction. Physical geography workers have made a survey of the tropical and sub-tropical areas in Kwangtung, Kwangsi and Yunnan provinces and systematically analyzed the natural conditions of these areas.

The division of the Hainan Island and southwestern Kwangsi into natural regions will constitute a definite basis for the development of tropical vegetation resources and rational land utilization.

On the basis of the special characteristics of tropical plants, climatology workers made a study of the natural conditions unfavorable to tropical plants caused by cold, drought and wind, and the distinction between tropical and sub-tropical weather. They have discussed and proved the cold-resisting characteristics of tropical plants and areas suitable for their cultivation, and came to the conclusion that some tropical industrial crops can be grown in sub-tropical zone under certain topographical and local climatic conditions.

Plant geography workers have made a survey of tropical vegetation, compiled a rather detailed vegetation map and thus made a preliminary study of the evolution of natural vegetation covering. The results of their study are the indispensable scientific bases for the extension of tropical plant cultivation.

5. Division of natural regions: the division of the earth surface into various natural regions according to the similarity and dis-similarity of natural conditions is one of the principal ways of knowing nature. The division of natural regions is helpful to formulating plans for utilizing and changing nature according to local conditions.

As our country has a vast territory with rich natural resources and complicated natural conditions, the division of our country into many natural regions is therefore of considerable significance both in practice and for scientific research.

Twice since the liberation we have tried to divide the whole country into natural regions--first time in 1953-1954 and second time in 1956-1958. In both times, the work of dividing the country into natural regions was carried on simultaneously with the work of dividing the whole country into natural regions according to topography, climate, hydrography, soil, vegetation and animals.

During the second time, it was clearly stated that the purpose of the division was to serve the interest of agri-

culture. The criteria and methods used for natural area division during the second time were more strict, and the reference materials were fairly complete.

With a tentative division ready, the work of future revision into a final and perfect division was made much easier. This tentative over-all division will serve as a blueprint for sub-divisions in each natural region. In addition, it has a practical reference value.

The achievements in physical geography during the last ten years, are, of course, not limited to the few items mentioned above. For instance, physical geography workers have spent their efforts in coordination with medium and small scale water conservancy, industrial, communications, forestation and cultural projects.

Progress was also made in theoretical studies. The big volume of work has brought physical geography to a new stage of advancement. Unlike the past, physical geography is no longer limited to general survey and simple description. We have begun to use fixation experiments to pursue quantitative analysis, thus noticeably elevating the standard of physical geography as a science and manifesting its increasingly important function in utilizing and transforming nature.

From now on, in pace with the flying and leaping development of socialist construction, the scale and speed of utilizing and improving nature will become greater and greater as the days go by, and the demand on physical geography will be correspondingly heavier and more exacting.

Physical geography workers must not feel contented with their achievements already attained, but rather, under the leadership of the Party, implement the policy of combining theory with practice, gather full strength, strive for the upper stream, humbly and positively learn from the masses, learn from the Soviet Union and other fraternal countries, conquer all the difficulties in the way of progress, serve for the cause of socialist construction and strive to heighten the standard of science without relaxation in effort.

NEW CHINA'S ECONOMIC GEOGRAPHY IN RAPID DEVELOPMENT

[This a complete translation of an article written by Wu Ch'uan-chun in Ti-li Chih-shih, (Geographical Knowledge) Peiping, No 10, 6 October 1959, pages 437-440.]

Economic geography is a branch of social economic science as well as a constituent part of geography. As far as its origin is concerned, it is an old science. But it is also a new science in the sense that it did not become a Marxist economic geography until the establishment of the Soviet Union.

In China, economic geography only began to develop as a science under the leadership and support of the Party after the establishment of new China. Its fast growth was made possible through the practice of serving the interest of national production, through learning the advanced theories and methods of the Soviet Union and through the incessant criticism and liquidation of the bourgeois, idealistic concept of geography.

Economic Geography Work in Old China

Economic geography has a long history in China dating back to about 2,000 years ago. At that time, much knowledge concerning economic geography was contained in such ancient literature as "shan hai chin" and "yu kung." "Huo-chih li-ch'uan" [Biographies of Successful Merchants] in Ssu-ma Ch'ien's "shih-chi" [Historical Records] is the earliest Chinese document on economic geography.

Because of the need of production and livelihood during the long feudalism epoch, a large amount of material concerning economic geography was accumulated and found in classics of Chinese history, local historical records and notes which form a part of our cultural heritage.

Under the restrictions of the nature of society and the limitation of scientific knowledge during the feudal age, writings on economic geography were mostly compilations of raw material and simple narration without any comprehensive theoretical discussion to speak of. Besides, these records were marred by contents which were fallacious, absurd or even superstitious.

At the time of the semi-feudalist and semi-colonial age, the development of economic geography was still very slow, the reason being twofold. One is that while social economy and production were backward, economic geography workers did not have a chance to take part in actual survey and research work for national construction. They inherited the old methodology for their academic work which was seriously divorced from reality.

The other reason is that under the impact of European and American bourgeois idealism and the wide circulation of a great variety of reactionary geographic ideas, economic geography at that time was built on a pseudo-scientific foundation and was used as a tool to serve the interest of the reactionary ruling class.

Although some material concerning economic geography was accumulated during this period, serious mistakes were found in their theoretical viewpoints, which only served to defend the reactionary rule, and hindered the development of economic geography.

Following the gradual introduction of Marxist economic geographical thinking into China in the wake of the May Fourth Movement, translations of foreign books on economic geography began to appear in China and, at the same time, some works with new viewpoints either compiled or authored by Chinese economic geographers were published. These works had a good effect upon the Chinese cultural circles in general and the field of geography in particular.

Before the whole nation was liberated, some geography in teaching the subject and launched struggles against bourgeois geographic ideas without relaxation. Their efforts had a good effect upon the teaching method for geography after the liberation of the entire country.

Before the liberation, the field of economic geography was predominated by the influence of bourgeois idealism. Geographic education and all geographic research institutions were controlled by, and used as tools of reactionary bureaucrats. The number of geography workers was limited and their academic background was extremely weak. Although they had accumulated some material, the quality of their work was poor.

The Inception of New China's Economic Geography

The establishment of new China ushered in a new historical epoch for economic geography in our country. Owing to the unfolding of many construction projects, economic geography workers are given a chance to take part in actual national construction. The army of economic geography workers bequeathed by old China was small in size and weak in quality, and many of these workers still insisted on their old viewpoints and methods.

In the face of such a situation, the most important thing to do in the field of economic geography during the early stage of liberation was to launch a thought reform. Aside from strengthening the study of Marxism-Leninism, the economic geography workers also started to learn Soviet Union's new theories of economic geography and criticized the old academic thinking imbued with bourgeois idealism. All these activities had laid down for new China's economic geography a definite ideological foundation.

During the period of the Revival of National Economy (1949-1952), economic geographers, while undergoing ideological orientation, participated in various phases of their fatherland's economic construction, primarily in coordination with water conservancy and railway building projects.

For flood prevention, the People's Government launched comprehensive development programs for power generation, irrigation, navigation and marine products along the principal waterways of the country.

Around 1950, it started projects for controlling the Huai River, improving the Yi and Shu River System, and harnessing the Yung-ting River and the Han River. In participating these construction tasks, economic geography workers scored definite achievements. They conducted surveys on the irrigation efficiency of the water systems concerned, on the prospective market for electric power to be generated, on the improvement of navigation channels, on the extent of damage to reservoirs due to flood and on the economic development of regions beyond the general areas benefited by water reservoirs. Then they offered concrete reference data and their own opinion so as to enable water conservancy agencies to have scientific bases for their multi-purpose design work.

In coordination with railway construction, economic geography workers in various place, upon accepting the tasks entrusted by the Design Bureau of the Ministry of Railway, undertook the work of economic survey as the basis of railway routing.

In accordance with conditions of natural environment, production, resources distribution and material circulation in areas along the proposed routes, they expounded on the economic significance of the proposed routes, made estimates on future prospects of economic development and transportation volume, and prepared written report on their own opinion.

In coordination with agricultural construction and urban construction, they did a great deal of work including the survey of newly reclaimed areas, the arrangement of protective forests in the northwest, survey of land utilization in suburban areas, and preparation of plans for urban construction.

In participating in the above-mentioned tasks closely related to national construction, economic geography workers received considerable training, and acquired experience in training cadres, collecting material, improving their working method, thus paving the way for the normal growth of new China's economic geography.

The Growth of New China's Economic Geography

In keeping with the grand-scale development of agriculture, industry and transportation during the period of the First Five-Year Plan (1953-1957), the State assigned to economic geography workers more new tasks which, not only broad in scope but also grand in scale, opened up unlimited and broad avenues for the development of economic geography and gave economic geography workers immense stimulation and encouragement.

During this period economic geography workers devoted their efforts to the following tasks:

(1) Coordination with major construction projects of the country: a grand-scale scientific comprehensive survey was conducted with the following as principal objectives: a) water and soil conservation along the mid-section of the Yellow River; b) development of water resources along the Amur River valley; and c) coordination between agriculture, forestry and animal husbandry in Sinkiang's Uighur Autonomous Region.

They also took part in planning for the development of the Yellow River, Hai River and the Yangtze River. During the course of preparing a long-range program for rational utilization of natural resources and allocation of productive force in accordance with the policies and missions of national economic development and on the basis of surveys of the present-level productivity and the hidden potential in various areas, economic geography workers rightly played their part.

(2) Unfolding of theoretical research: because of the development of economic geography itself and on the basis of study of the advanced economic geography theories of the Soviet Union and other fraternal countries, many economic geography workers have conducted, during this period, research as well as experiments on some fundamental theories of economic geography and theories concerning the division of the country into economic and agricultural regions.

They held academic debates through which theories of economic geography were further advanced. At the same time, criticism against capitalist idealistic thinking became more intensive and systematized.

(3) Systematic treatment of material on economic geography and the writing of "Chinese Geography" and Chinese provincial economic geography. The writing of "Chinese Geography" signified the beginning of an attempt to compile a well-organized and systematic treatise on China's economic geography. At the same time, studies were made about the geography of Southeast Asian and other countries.

(4) The different branches of economic geography (industrial geography, agricultural geography, transportation geography and population geography) also underwent development during this period, thus a good foundation was laid for the establishment of each branch as a science.

In brief, keeping pace with the development of production in the country, economic geography underwent greater advancement in quality, scope and intensity during the period of the First Five-Year Plan than during the Period of the Revival of National Economy.

In addition, the main efforts of the economic geography workers were devoted to national economic construction. The large volume of work done by the economic geography workers has not only enlarged the army of cadres and raised the administrative standard but also contributed to the buildup of economic geography theories.

Great Development of New China's Economic Geography

Under the illumination of the Party's general line for socialist construction, the year 1958 saw a high-tide of great leap forward in industrial and agricultural production and a high-tide of communization in the countryside throughout the country. This new situation gave rise to an unprecedentedly large number of new theoretical problems and research missions for economic geography workers, greatly enriched the content of China's economic geography and opened up new and broad avenues for the study of economic geography and its branches.

In the spirit of the new teaching plan which combines learning, scientific research and productive labor in school curriculum, the teachers and students of geography

in all institutes of higher learning took up the practical work of industrial and agricultural production, drew up economic plans for communes, and engaged in such tasks as comprehensive surveys, regional planning, agricultural zoning, and the writing of regional geography. Thus, an unprecedentedly flourishing situation appeared in China's geography circles where the masses were enthusiastically engaged in scientific research.

After the great leap forward, economic geography work stressed on "great Communist cooperation" and more clearly bore out the principle that scientific study should follow the lead of its respective missions. Through actual work on a grand scale, the content of economic geography became more substantial and the working method of economic geographers was improved. The result of their work was accepted by local authorities and other authorities concerned and used as a guidance to production. Facts have proved that economic geography has its unique function in servicing production and promises a bright future.

People's commune is a collective body engaged in production in a small area. It has raised many extremely interesting problems for economic geographers, such as rational allocation of productive force, planned proportionate development of multiple agricultural activities, rational land utilization, residential area planning, and development of land communications network and waterway network, etc. The study of these problems is of great significance not only to the development of communal production and national economy but also to the theoretical research of economic geography.

The people's commune as a new pattern of social structure has attracted close attention of economic geographers ever since its inception. During the period from the winter of 1958 to the fall of 1959, economic geography workers and students of various research organizations and institutions of higher learning throughout the country organized teams of about 600 to 700 person each to conduct surveys in more than 100 communes scattered in 15 provinces. They prepared economic plans for the communes, and offered their suggestions on rational land utilization, allocation of productive force, arrangement of residential areas and irrigation channel network.

New rules and new problems are expected to continue to emerge during the course of future development of the people's communes. Therefore, the study of economic geography of the people's commune is a long-range task which will undoubtedly promote the development of economic geography itself and its branches.

Regional planning and agricultural zoning are the two comparatively general research topics of our economic geographers after the great leap forward movement. Regional planning is essentially a task in coordination with construction engineering projects, which involve many problems concerning economic geography such as the relationship between distribution of industrial establishments and over-all development of regional productivity, rational distribution of industrial and population centers, and the relationship between agricultural activities and rational utilization of labor resources.

These important problems in national economic construction point out the direction in which economic geography should serve socialist construction. As to agricultural zoning, aside from actual surveys in Kiangsu Province and along the Amur River valley, research on the methodology of agricultural zoning was started. This constitutes the beginning of a systematic study of methodology in the field of economic geography in our country.

After the great leap forward, the results of comprehensive surveys were noticeably better than those during the period of the First Five-Year Plan. The scopes of the surveys were broadened; the purposes were better defined; and the projects were more closely related to production. The experience in the last few years shows that the emphasis of comprehensive surveys should be put on economics so as to affirm the function of an economic geography worker and his position in such surveys.

The achievements in the field of geography since the establishment of the People's Republic have been remarkable. Some 500 articles on economic geography have appeared in the three major geographical periodicals of our country (ti-li Hsueh-pao, Ti-li-hsueh Tzu-liao, and Ti-li Chih-shih) in the last ten years. More than 100 books on economic geography were published by various publishing houses.

Many of these works have been translated into foreign languages and published in foreign countries. Through actual work, economic geography workers in the country have formed a formidable army ten times as big as it was during the years immediately following the liberation. These workers are stationed at different posts throughout the country and these individual posts constitute a vast network for scientific research.

Prospects of Development of New China's Economic Geography

Economic geography is a science highly comprehensive in nature. Its mission is to discover and study the structure, distribution, characteristics, conditions and rules of development of social production in a specific geographic area.

It goes further to study the allocation of productive force and regional economy as an entity. It is, therefore, particularly important to study economic geography in a comprehensive way.

Of course, a comprehensive treatment of economic geography must rely upon the healthy development of its different branches before it can attain a higher level of general theoretical presentation. In turn, comprehensive study of economic geography is also helpful to the development of its different branches. The future work of economic geography, which is going to be heavy and colorful may be summarized as follows:

(1) Positively unfold theoretical study; continue to penetratingly criticize the pseudo-scientific theories of the bourgeois class; summarize the characteristics of productive force allocation in our country; establish through actual practice in socialist construction a complete theoretic system and methodology for new China's economic geography; and while using theories to direct practical work, put economic geography at the service of socialist construction. To carry on theoretical research and practical survey simultaneously is to carry out the "walking-with-two-legs" policy for economic geography work.

(2) Positively take part in the projects for economic zoning, agricultural zoning, river valley planning, regional planning; and sum up all related theories and methodology.

(3) Undertake comprehensive survey and research work while participating in the preparation of regional development programs.

(4) Exert great effort to study the economic geography of people's communes; and summarize the theories and methods for allocation of productive force in people's communes.

(5) Conduct specialized surveys and researches in various branches of economic geography as the bases for the writing and compilation of special treatises on different branches of economic geography.

(6) Compile high-standard books on Chinese economic geography, provincial and regional geography, and economic geography of foreign countries.

(7) Participate in the preparation of economic maps for the whole nation, provinces and regions.

(8) Sum up the production experience of the masses; compile popular reading material on geography; and give popular lectures on geography throughout the country to popularize geographic knowledge.

To set afoot the above tasks with a good beginning and to complete them with good results, great efforts must be spent in cultivating cadres, strengthening political learning, consolidating Marxist-Leninist viewpoints, improving administrative proficiency, broadening the scope of knowledge, and striving to establish at an early date a competent, red-and-expert, and strong army of economic geography workers.

Under the brilliant illumination of the Party's general line of socialist construction, all economic geography workers stationed at various posts throughout the country are filled with self-confidence, gathering full strength, resolutely opposing rightist tendencies, continuing the leap forward and struggling for the consummation of the common cause.

It is our conviction that as long as economic geography workers devote themselves to practical work, follow closely the Party as the leader, strengthen cooperation, insist on the mass line, carefully study the Party's policies and measure, strengthen their study of advanced theories and methods of the Soviet Union and other people's democracies, implement the policy of "let one hundred schools of thought contend," they can make outstanding contributions toward the socialist construction of our country and bring before long China's economic geography to the level of one of the most advanced in the world.

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